2. Bandwidth

2.1 OBW

2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Ant	99% Occupied Bandwidth (MHz) Result	Verdict
802.11a	SISO	5180	1	19.224	Pass
		5200	1	18.200	Pass
		5240	1	18.258	Pass
802.11n (HT20)	SISO	5180	1	19.498	Pass
		5200	1	19.110	Pass
		5240	1	19.222	Pass
802.11n (HT40)	SISO	5190	1	37.126	Pass
		5230	1	37.149	Pass
802.11ac (VHT20)	SISO	5180	1	19.165	Pass
		5200	1	19.128	Pass
		5240	1	19.166	Pass
802.11ac (VHT40)	SISO	5190	1	36.998	Pass
		5230	1	37.133	Pass
802.11ac (VHT80)	SISO	5210	1	76.951	Pass

Remark: Both Ant1 and Ant2 have been tested, only record the worst case in the report.

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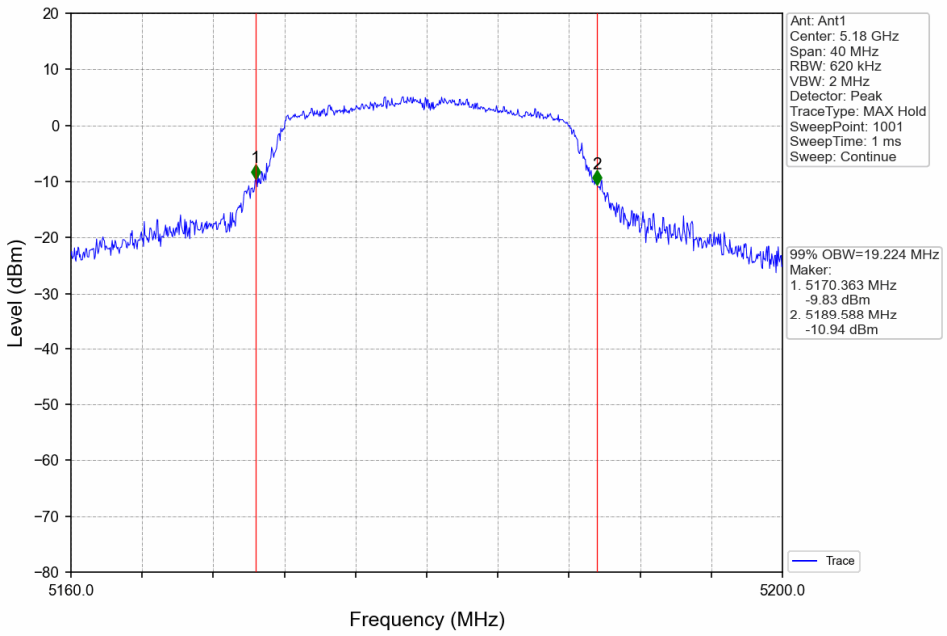
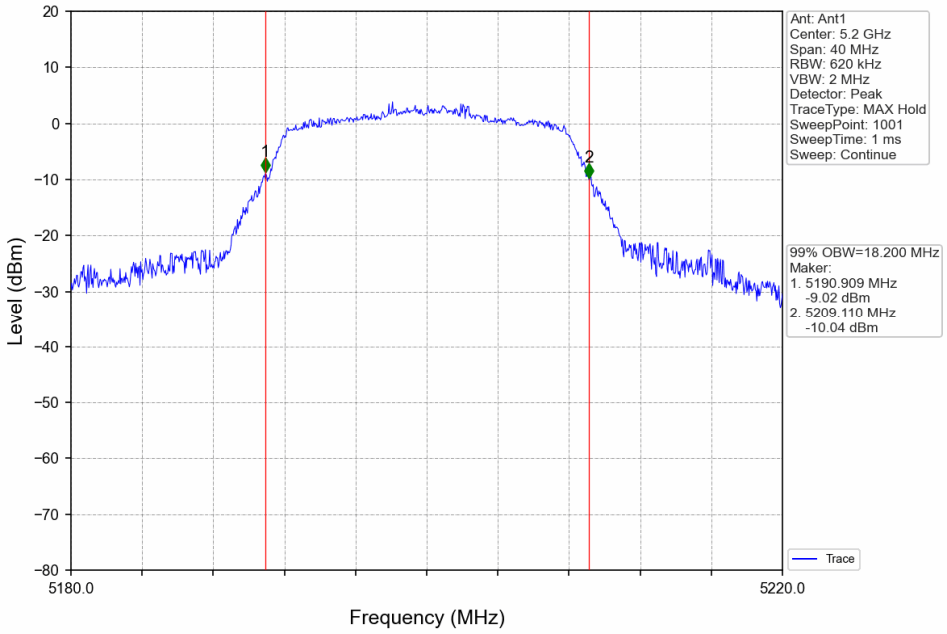
2.1.2 Test Graph

802.11a_LCH_5180MHz_Ant1_NTNV



802.11a_MCH_5200MHz_Ant1_NTNV



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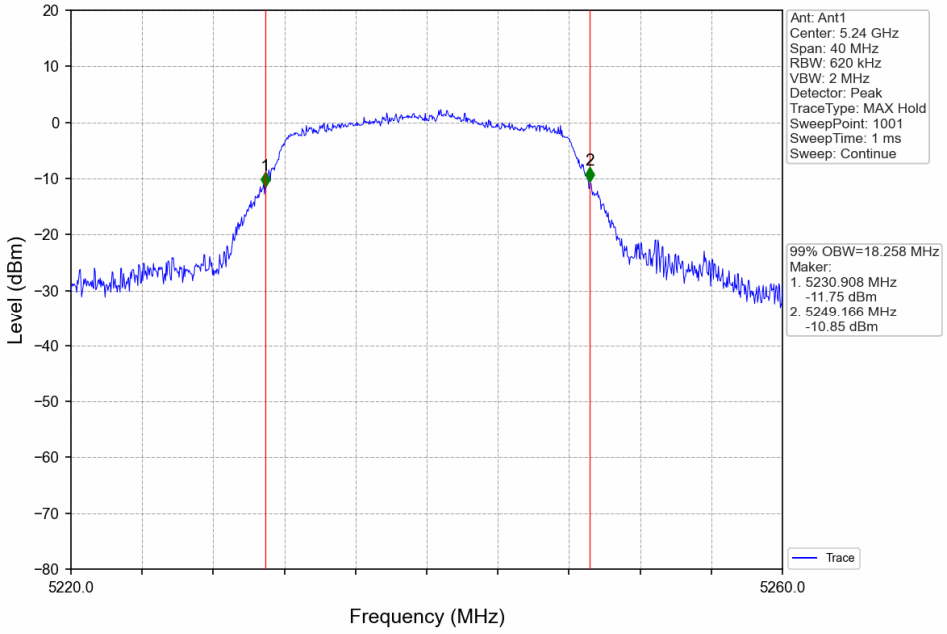
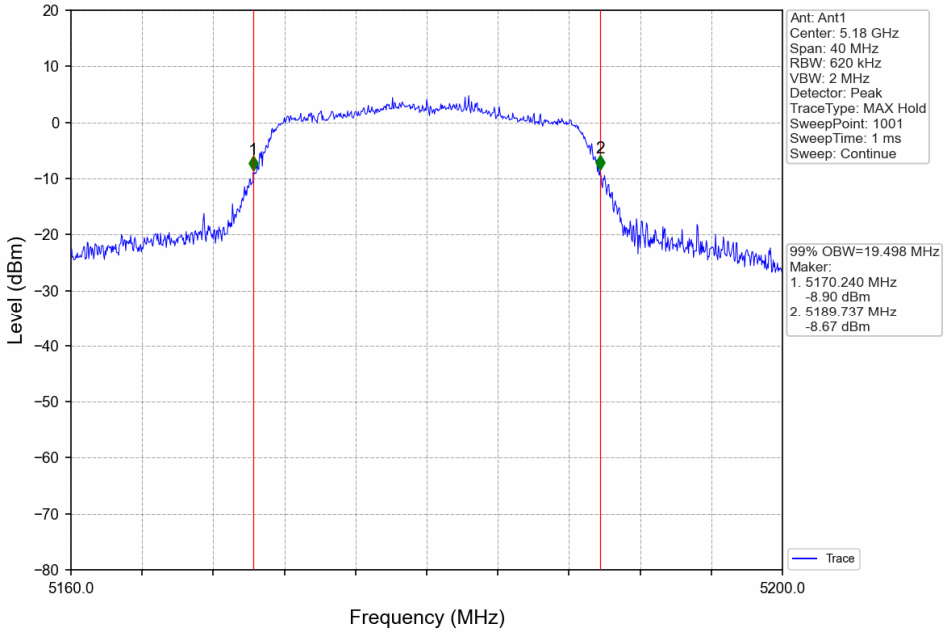
802.11a_HCH_5240MHz_Ant1_NTNV



802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



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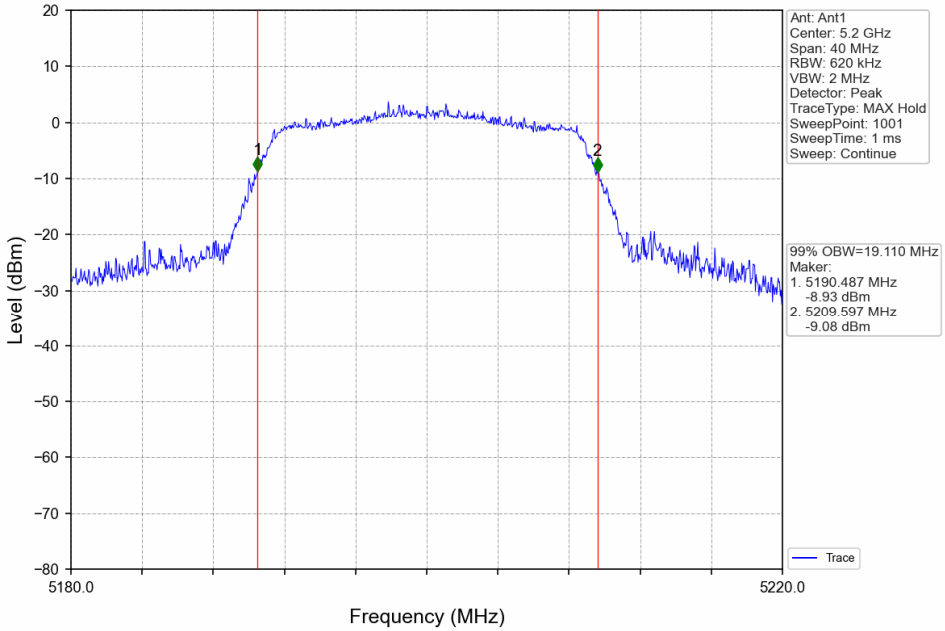
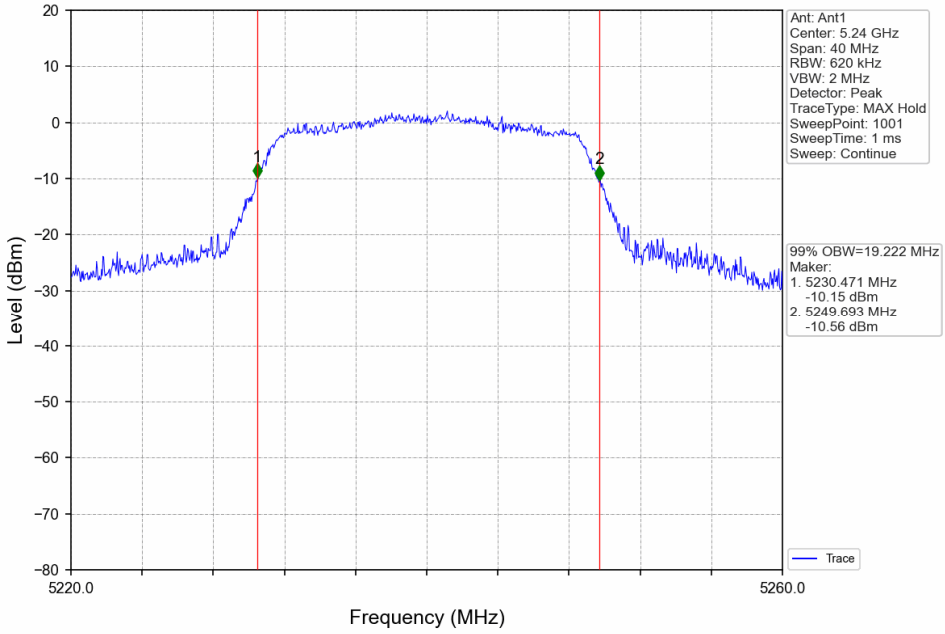
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



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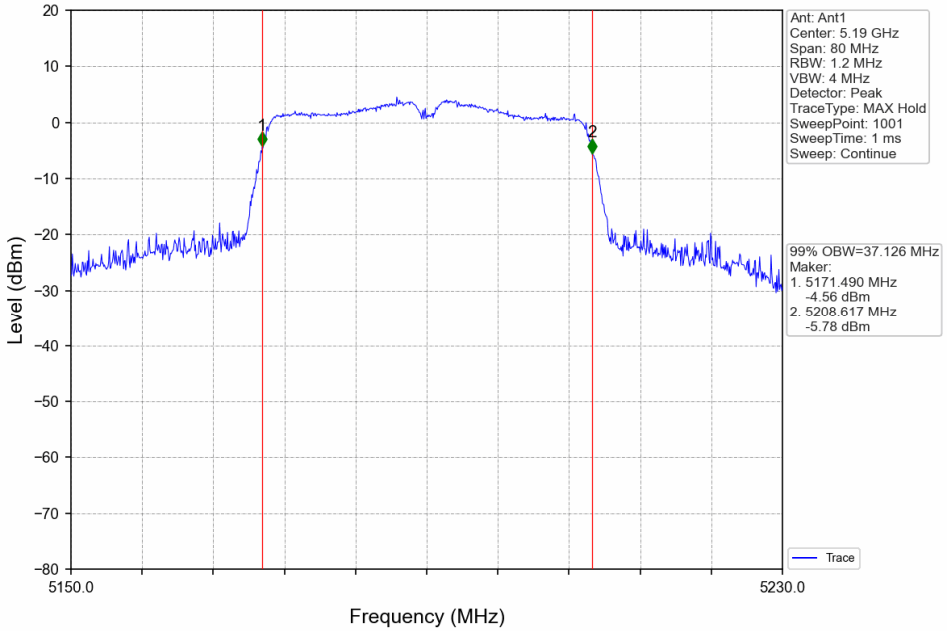
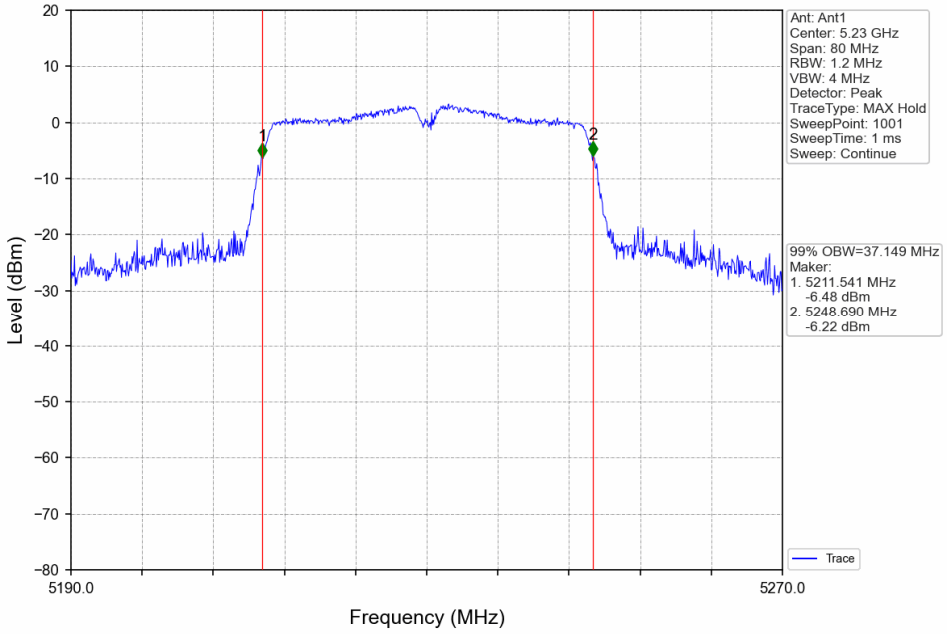
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



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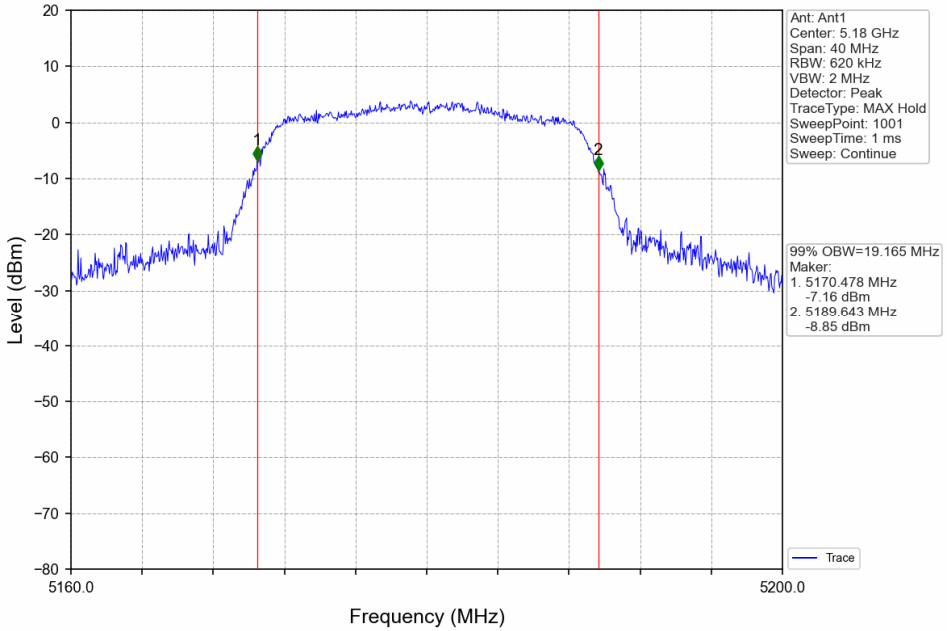
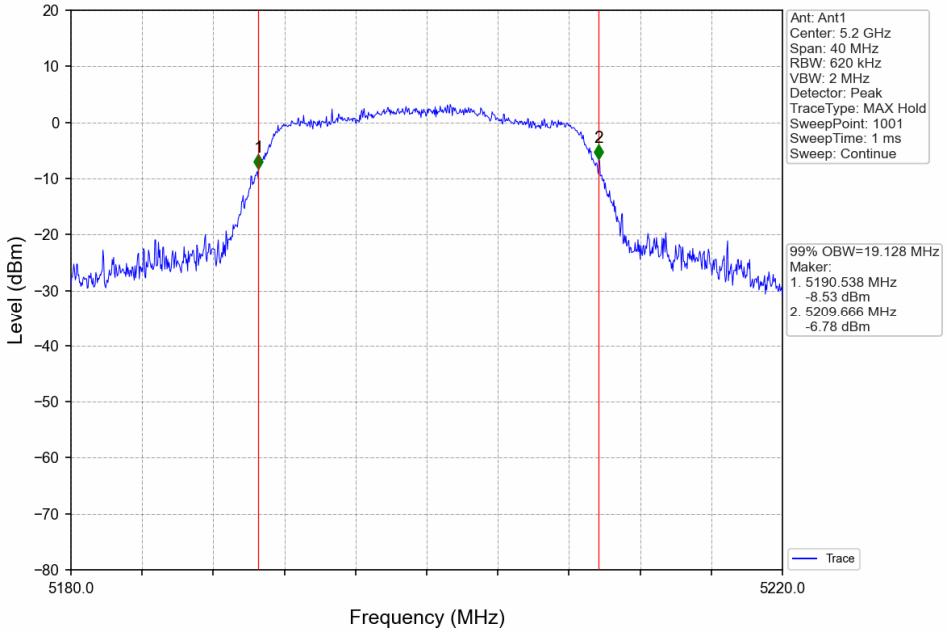
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



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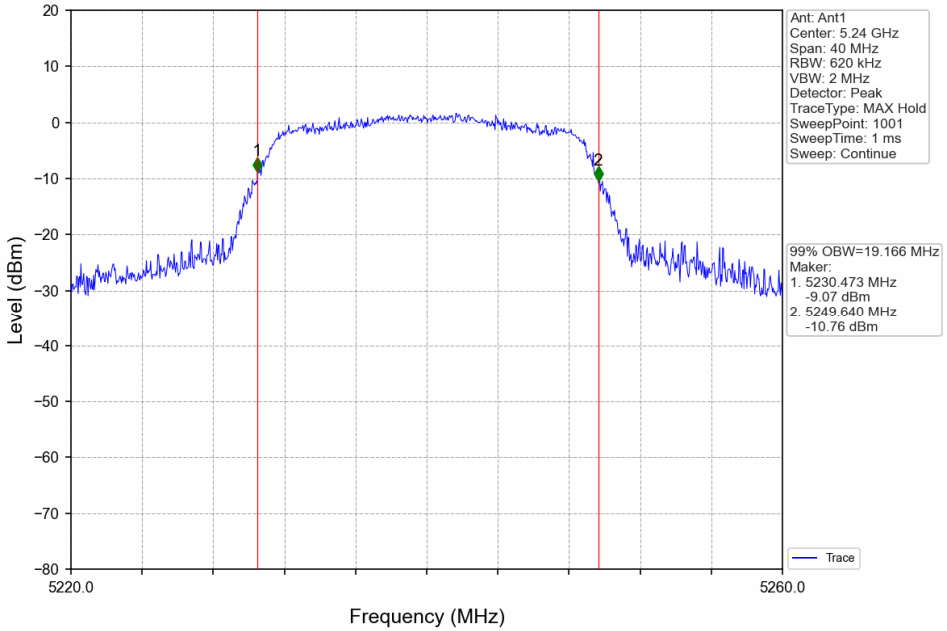
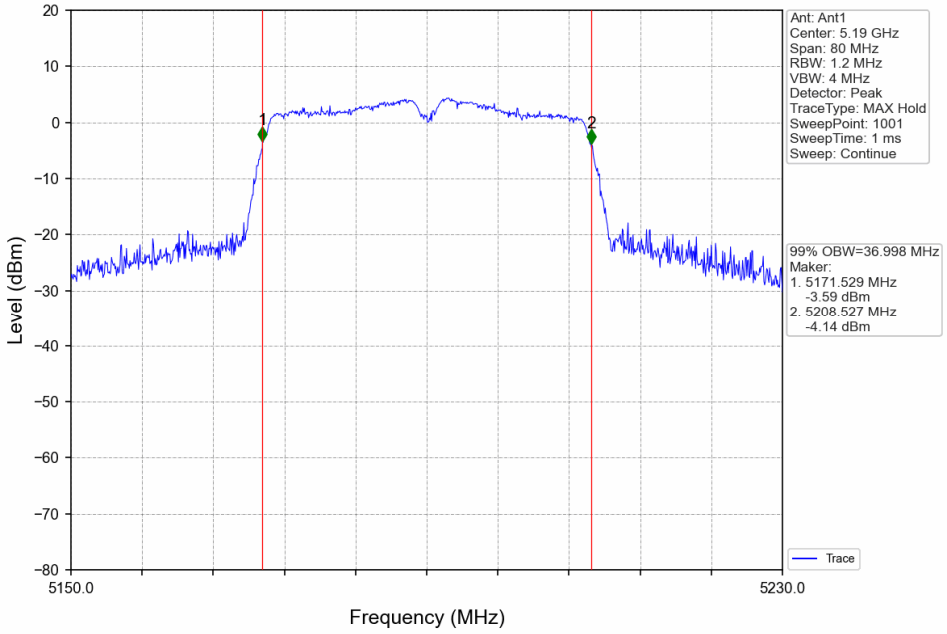
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



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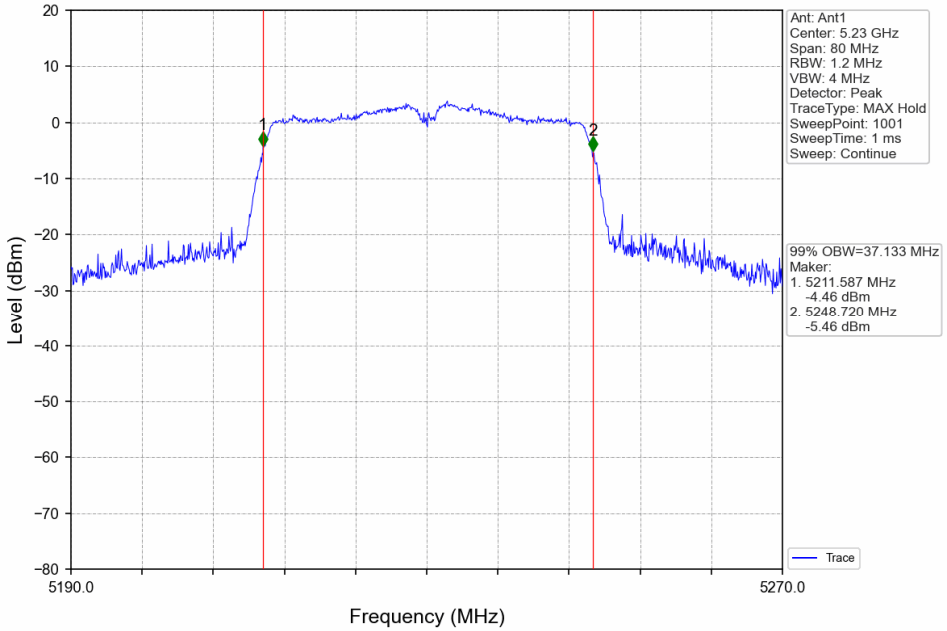
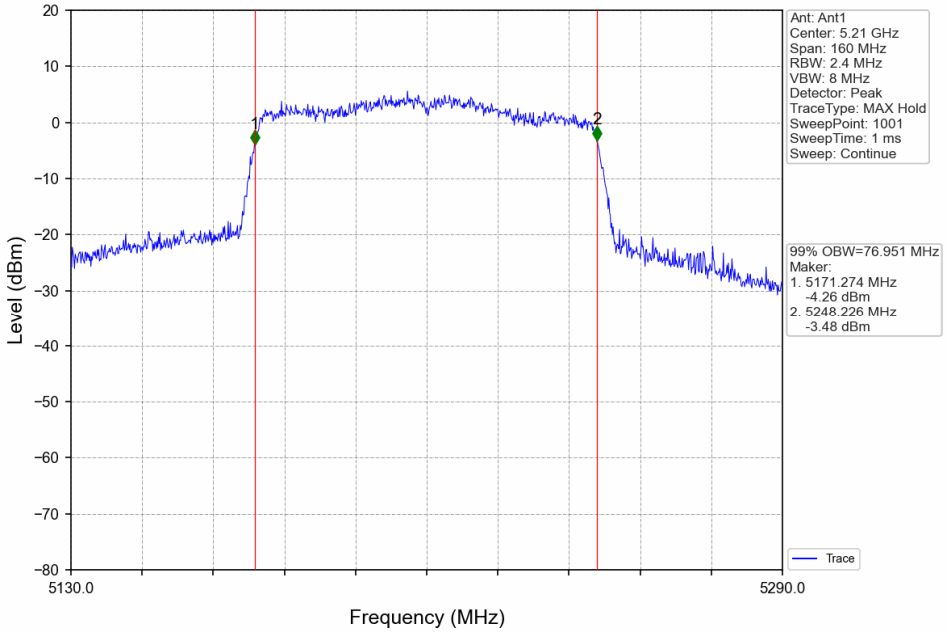
802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



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2.2 26dB BW

2.2.1 Test Result

Mode	TX Type	Frequency (MHz)	Ant	26dB Bandwidth (MHz) Result	Verdict
802.11a	SISO	5180	1	36.970	Pass
		5200	1	23.862	Pass
		5240	1	30.430	Pass
802.11n (HT20)	SISO	5180	1	34.198	Pass
		5200	1	30.177	Pass
		5240	1	32.598	Pass
802.11n (HT40)	SISO	5190	1	63.030	Pass
		5230	1	64.263	Pass
802.11ac (VHT20)	SISO	5180	1	30.388	Pass
		5200	1	28.007	Pass
		5240	1	33.103	Pass
802.11ac (VHT40)	SISO	5190	1	60.106	Pass
		5230	1	66.283	Pass
802.11ac (VHT80)	SISO	5210	1	108.645	Pass

Remark: Both Ant1 and Ant2 have been tested, only record the worst case in the report.

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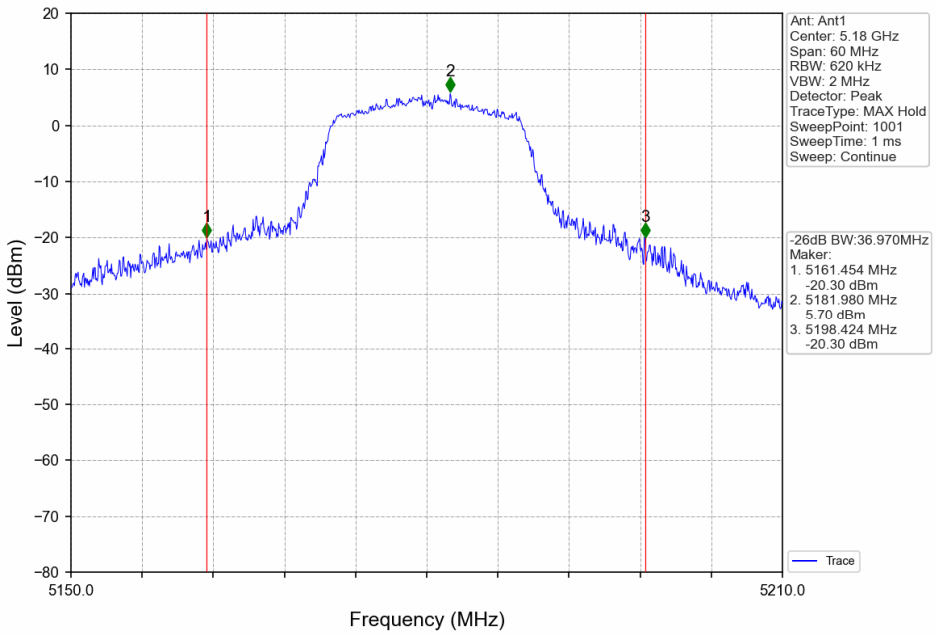
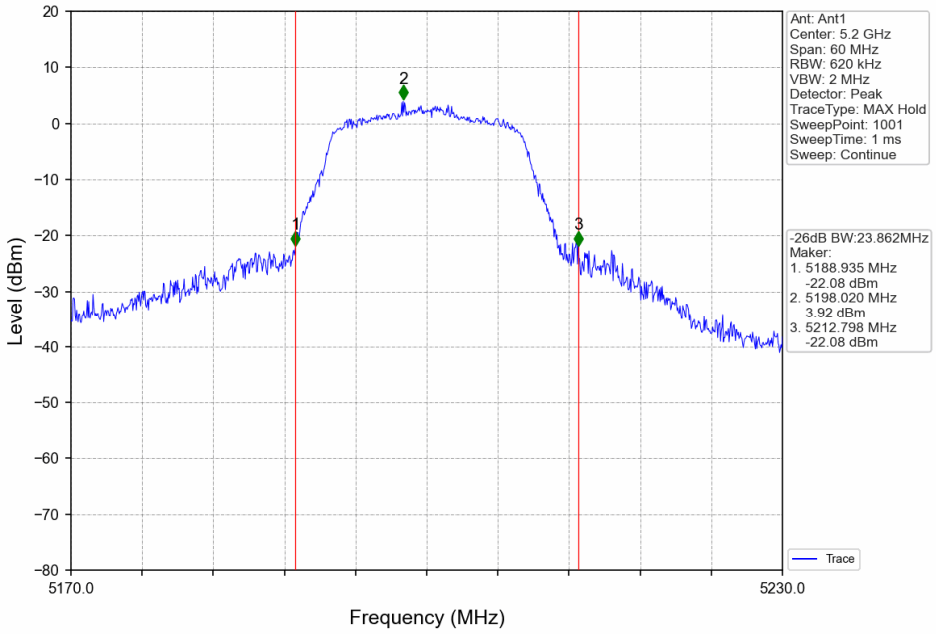
2.2.2 Test Graph

802.11a_LCH_5180MHz_Ant1_NTNV



802.11a_MCH_5200MHz_Ant1_NTNV



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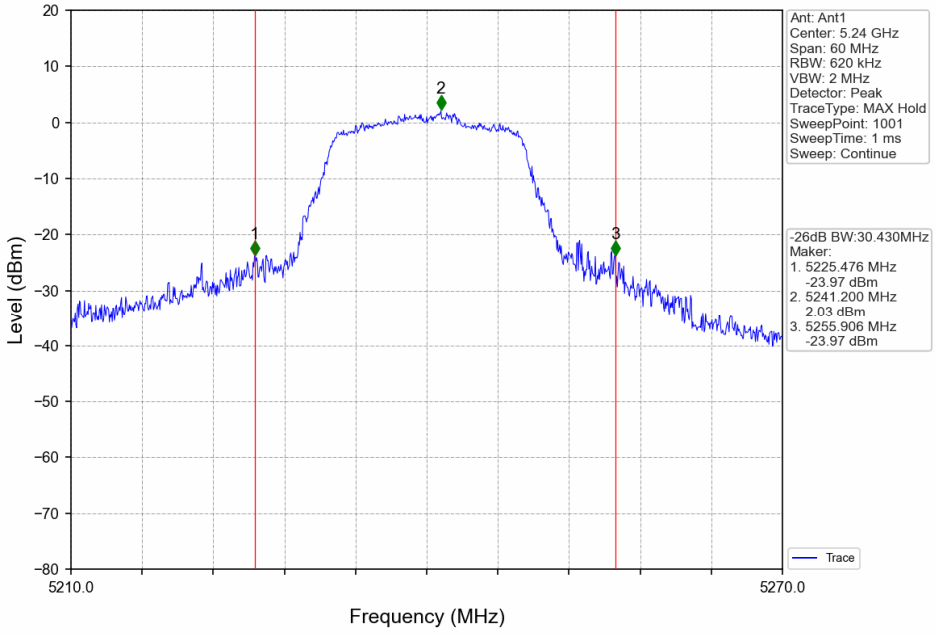
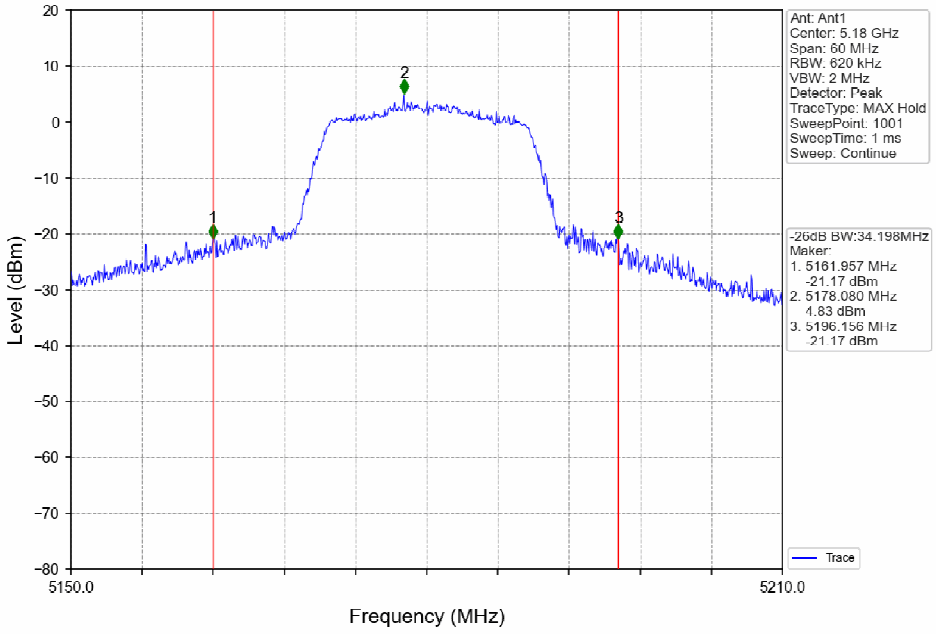
802.11a_HCH_5240MHz_Ant1_NTNV



802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



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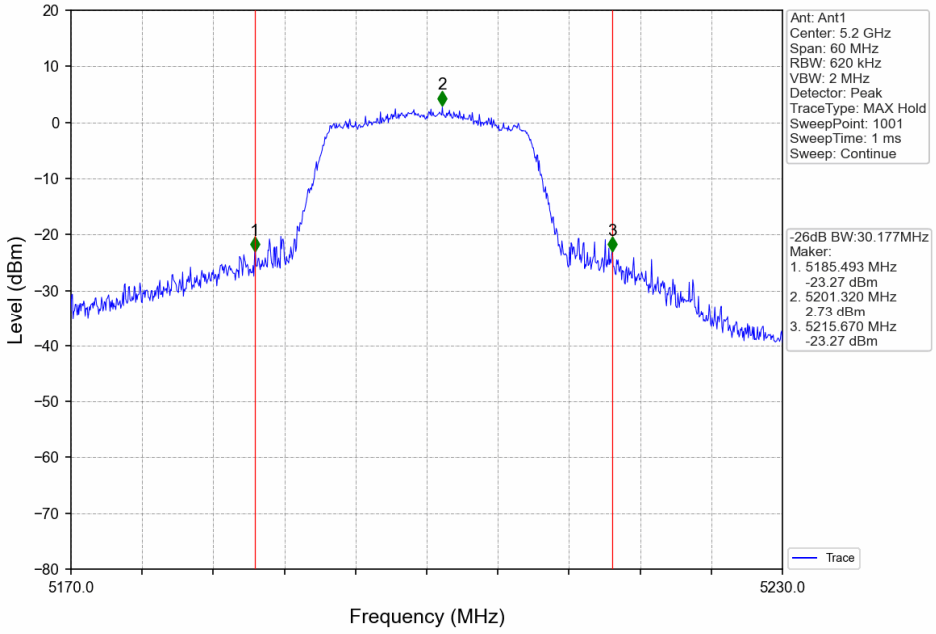
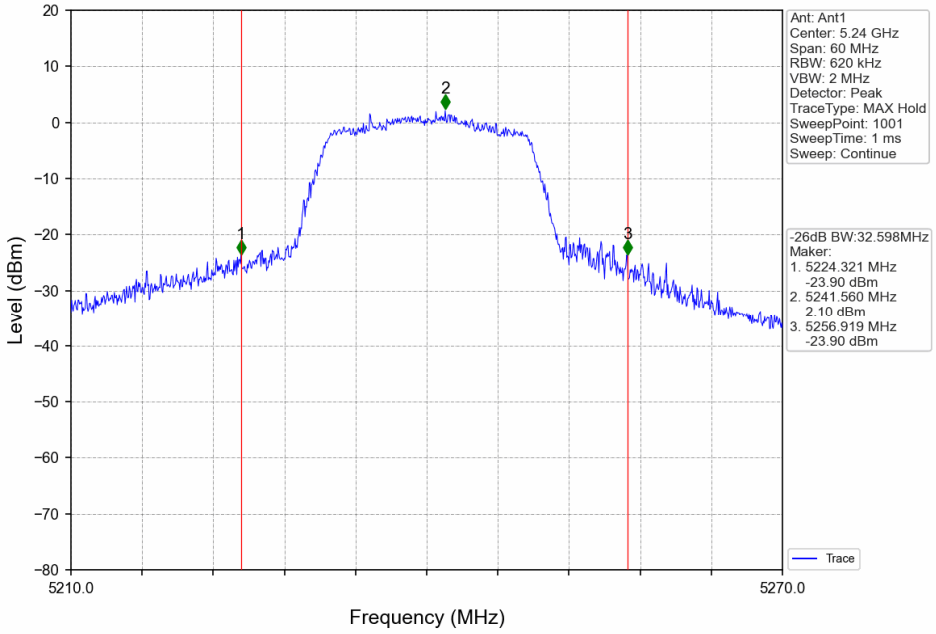
802.11n(HT20)_MCH_5200MHz_Ant1_NTNV



802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



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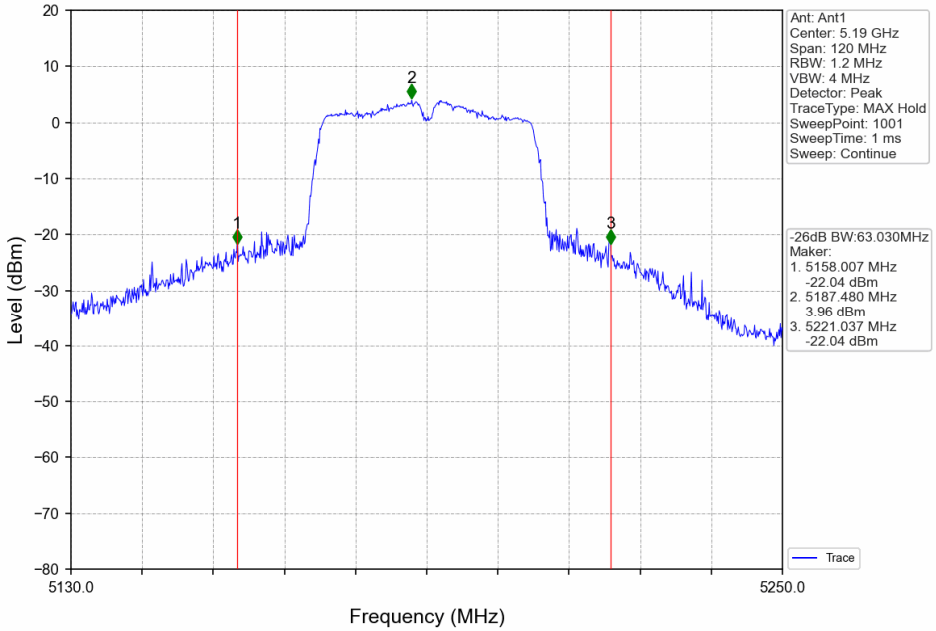
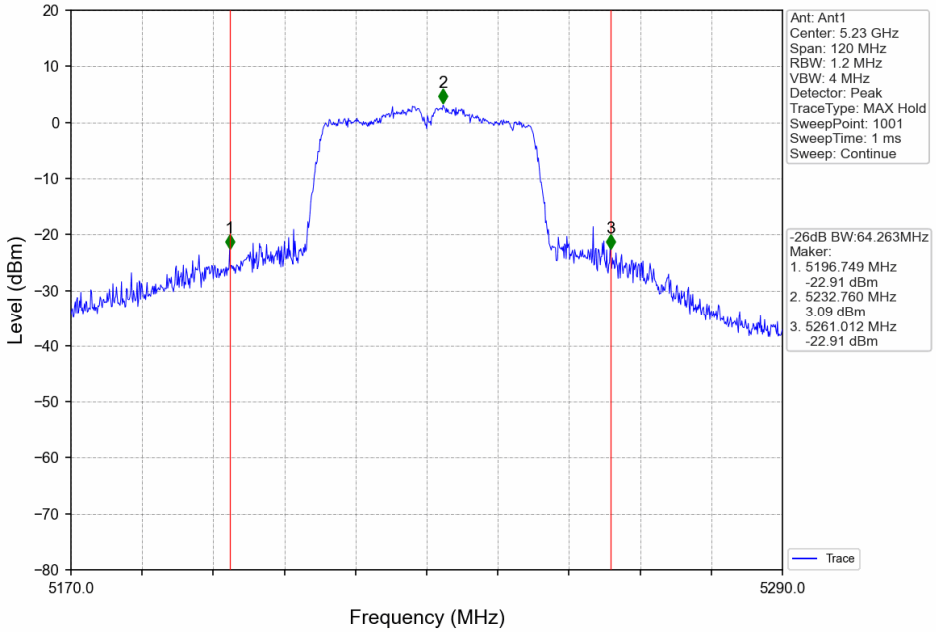
802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



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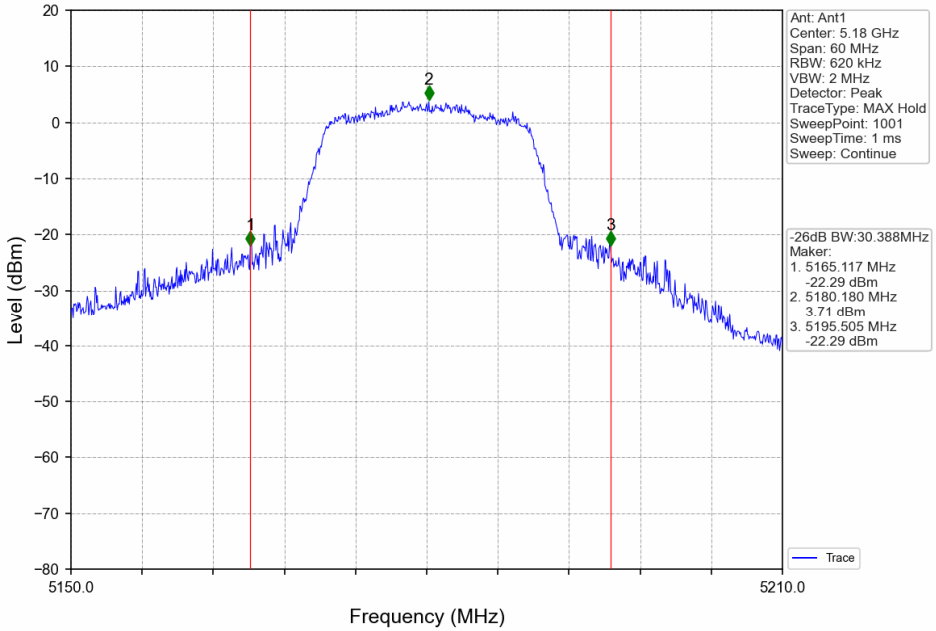
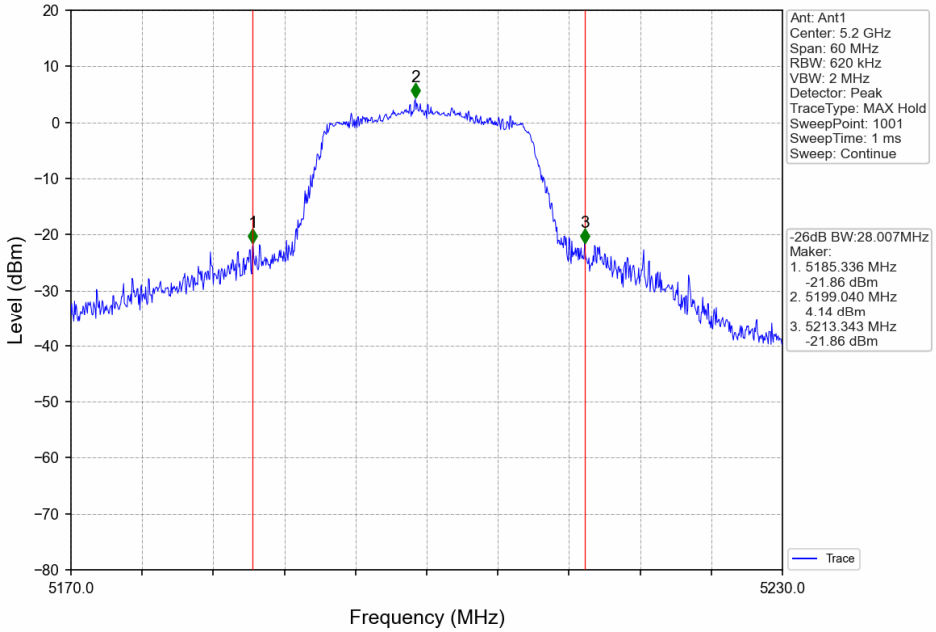
802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



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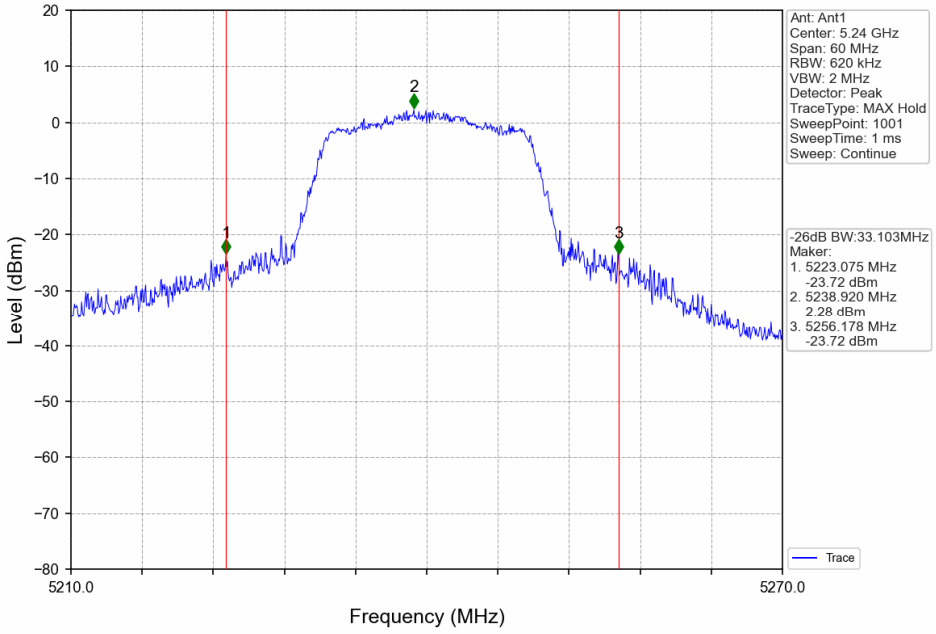
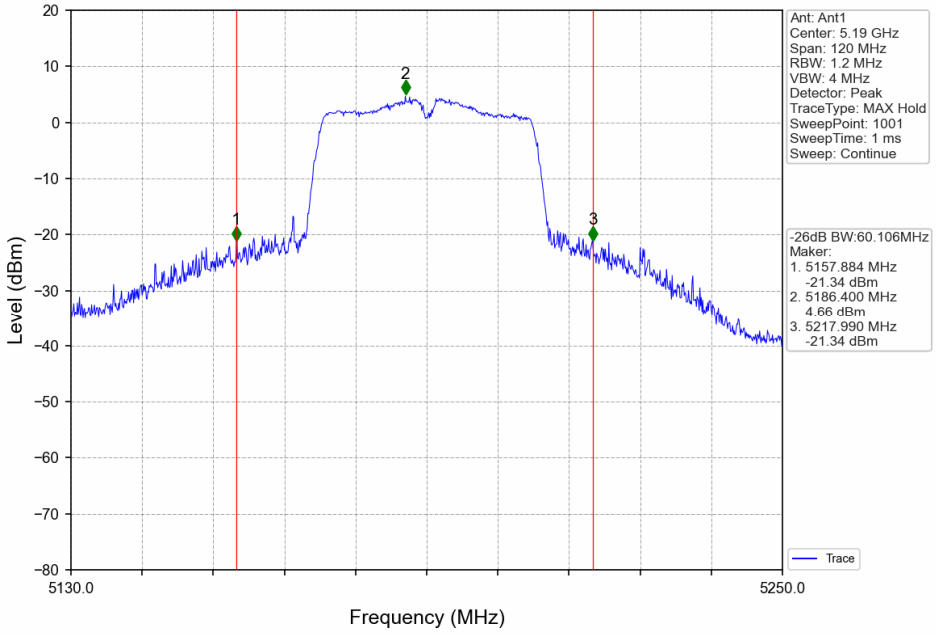
802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



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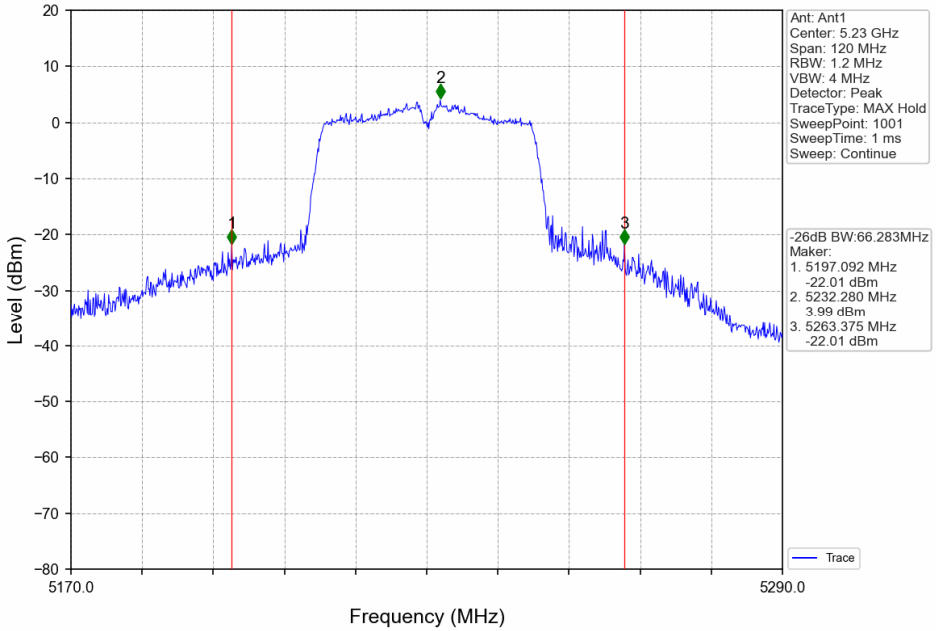
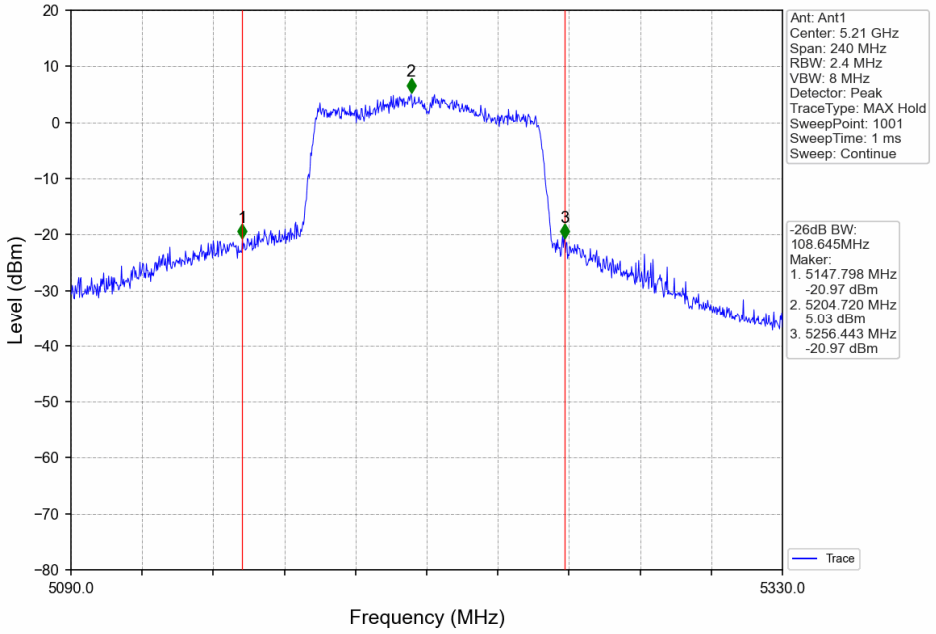
802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



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3. Maximum Conducted Output Power

3.1 Power

3.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum Conducted Output Power (dBm)				Verdict
			Ant1	Ant2	MIMO	Limit	
802.11a	SISO	5180	8.66	10.74	/	<=30	Pass
		5200	7.75	10.63	/	<=30	Pass
		5240	6.43	9.58	/	<=30	Pass
802.11n (HT20)	MIMO	5180	8.23	10.52	12.53	<=27.99	Pass
		5200	7.28	10.20	11.99	<=27.99	Pass
		5240	6.28	9.70	11.33	<=27.99	Pass
802.11n (HT40)	MIMO	5190	7.62	10.16	12.08	<=27.99	Pass
		5230	6.46	9.36	11.16	<=27.99	Pass
802.11ac (VHT20)	MIMO	5180	8.39	10.90	12.83	<=27.99	Pass
		5200	7.79	10.13	12.13	<=27.99	Pass
		5240	6.68	9.30	11.19	<=27.99	Pass
802.11ac (VHT40)	MIMO	5190	8.02	10.06	12.17	<=27.99	Pass
		5230	6.76	9.34	11.25	<=27.99	Pass
802.11ac (VHT80)	MIMO	5210	7.13	9.47	11.47	<=27.99	Pass
Note1: Antenna Gain: Ant1: 5.00dBi; Ant2: 5.00dBi; Note2: Directional Gain: 8.01dBi MIMO Limit=30dBm-(Directional Gain-6dBi)							

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4. Maximum Power Spectral Density

4.1 PSD

4.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/MHz)				Verdict
			Ant1	Ant2	MIMO	Limit	
802.11a	SISO	5180	-1.27	0.67	/	<=17	Pass
		5200	-2.43	0.04	/	<=17	Pass
		5240	-3.51	-0.67	/	<=17	Pass
802.11n (HT20)	MIMO	5180	-2.30	0.02	1.97	<=14.99	Pass
		5200	-3.31	-0.26	1.43	<=14.99	Pass
		5240	-4.37	-0.96	0.62	<=14.99	Pass
802.11n (HT40)	MIMO	5190	-5.81	-2.94	-1.25	<=14.99	Pass
		5230	-6.90	-3.97	-2.27	<=14.99	Pass
802.11ac (VHT20)	MIMO	5180	-2.29	0.24	2.11	<=14.99	Pass
		5200	-3.24	-0.29	1.43	<=14.99	Pass
		5240	-4.07	-1.19	0.58	<=14.99	Pass
802.11ac (VHT40)	MIMO	5190	-5.54	-3.27	-1.44	<=14.99	Pass
		5230	-6.52	-3.94	-2.17	<=14.99	Pass
802.11ac (VHT80)	MIMO	5210	-9.30	-6.93	-5.14	<=14.99	Pass
Note1: Antenna Gain: Ant1: 5.00dBi; Ant2: 5.00dBi; Note2: Directional Gain: 8.01dBi MIMO Limit=17-(Directional Gain-6dBi)							

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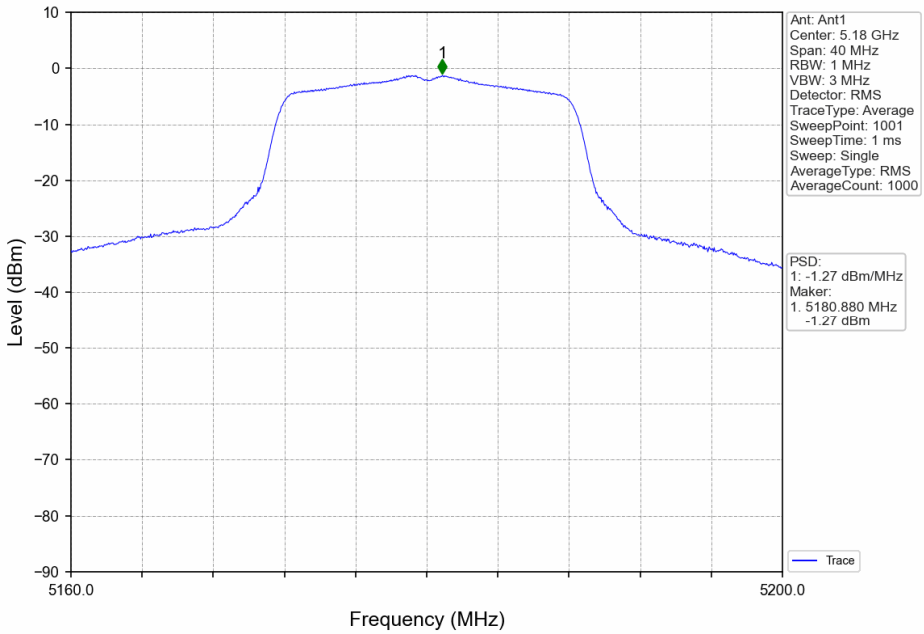
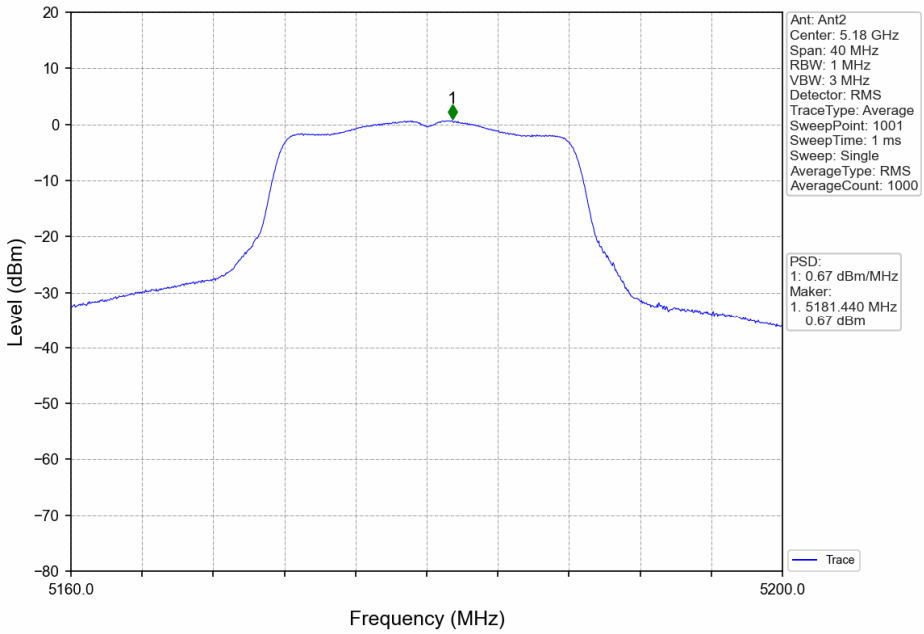
4.1.2 Test Graph

802.11a_LCH_5180MHz_Ant1_NTNV



802.11a_LCH_5180MHz_Ant2_NTNV



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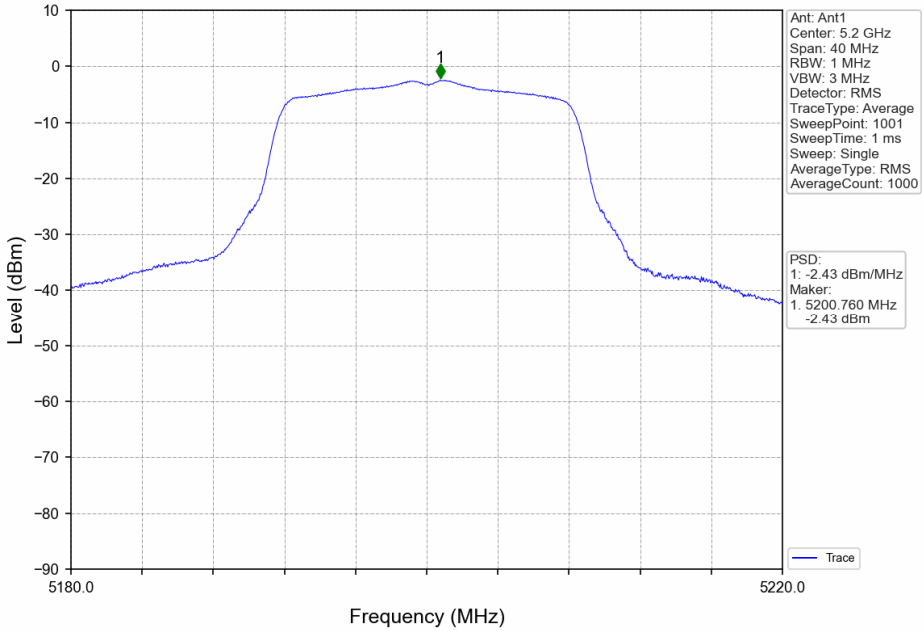
802.11a_MCH_5200MHz_Ant1_NTNV



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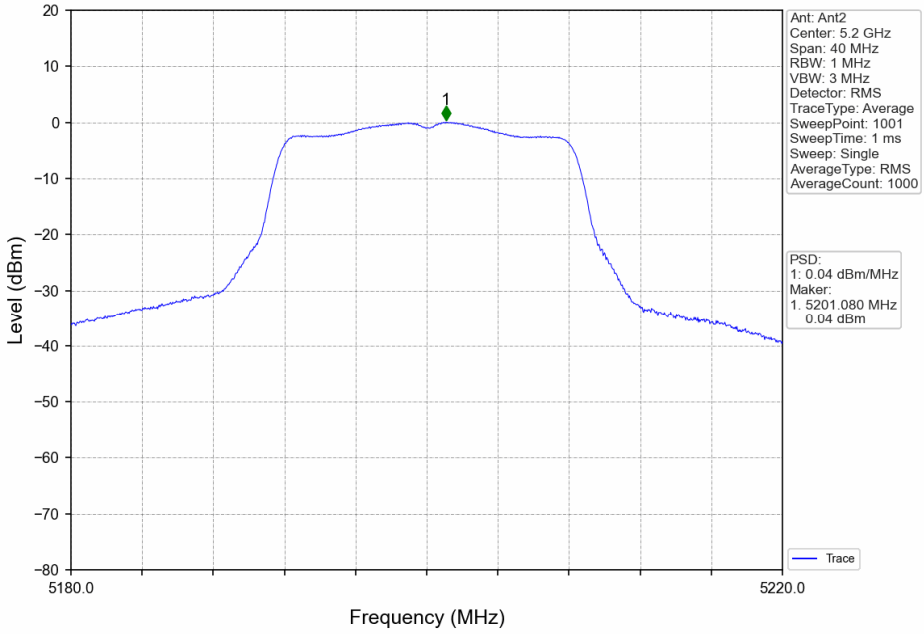

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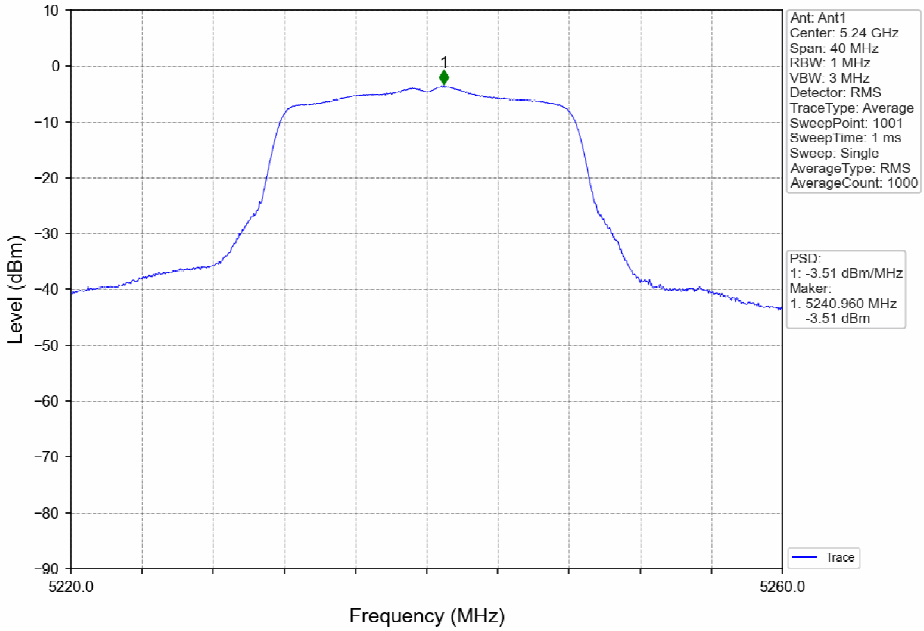
802.11a_HCH_5240MHz_Ant1_NTNV



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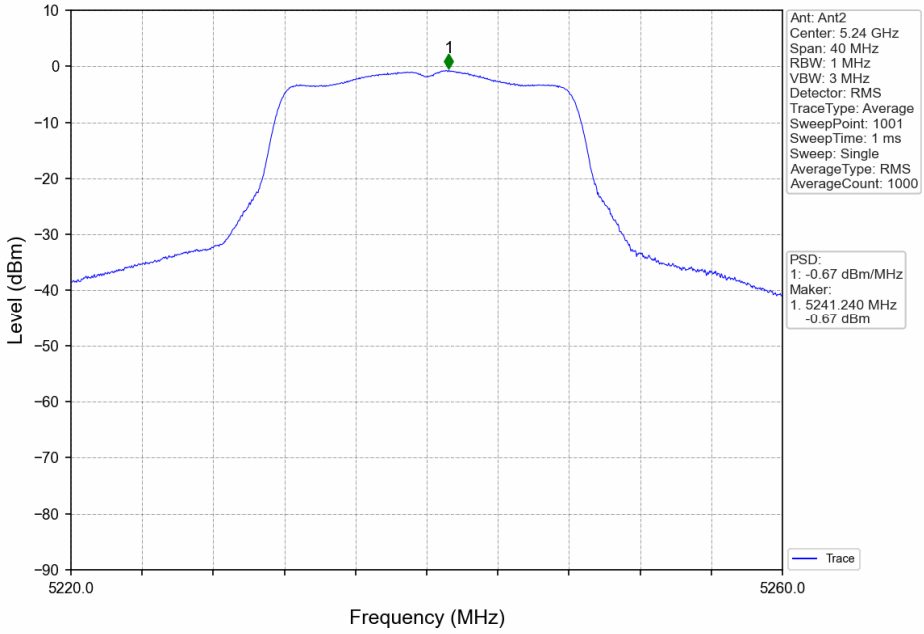

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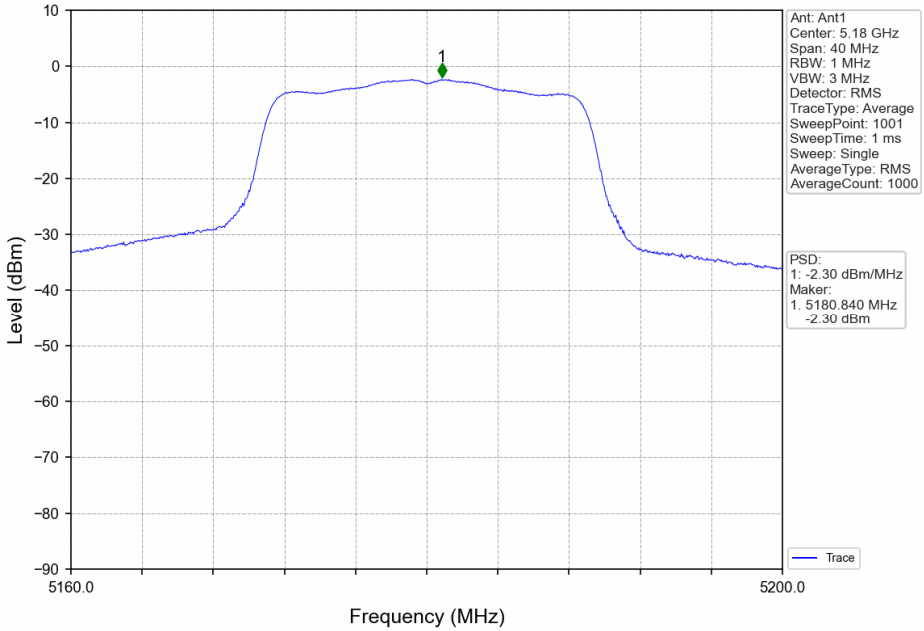
802.11n(HT20)_LCH_5180MHz_Ant1_NTNV



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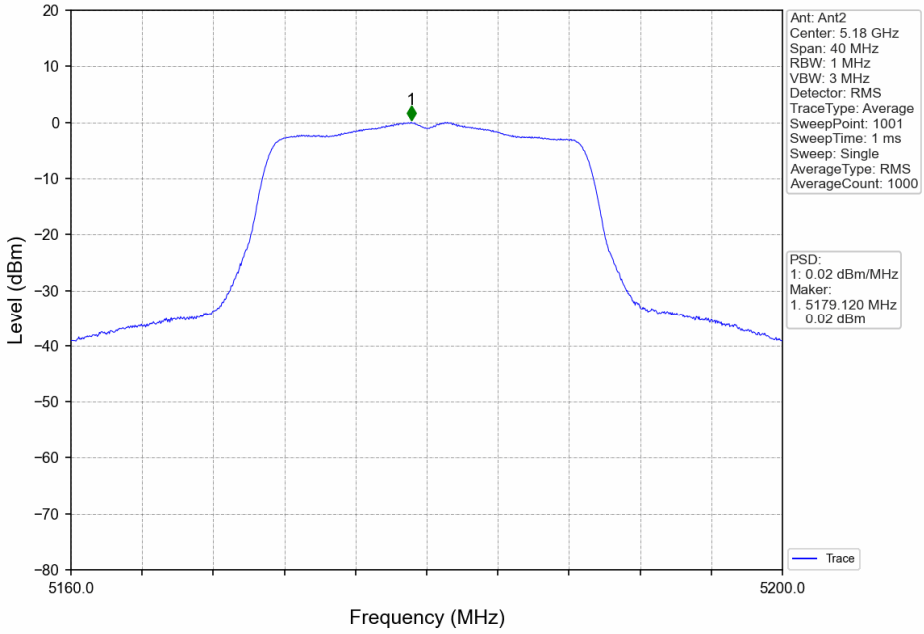

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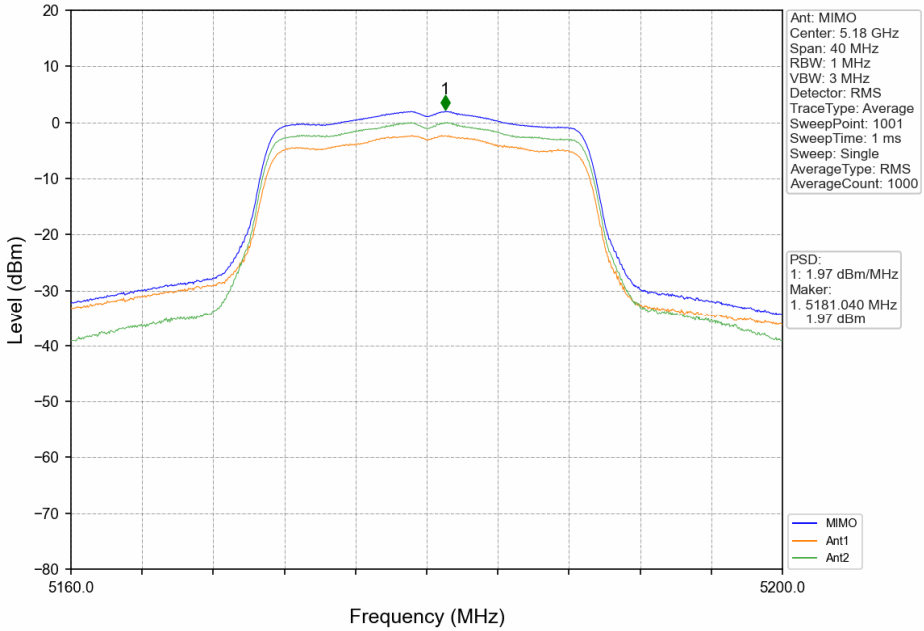
802.11n(HT20)_LCH_5180MHz_MIMO_NTNV



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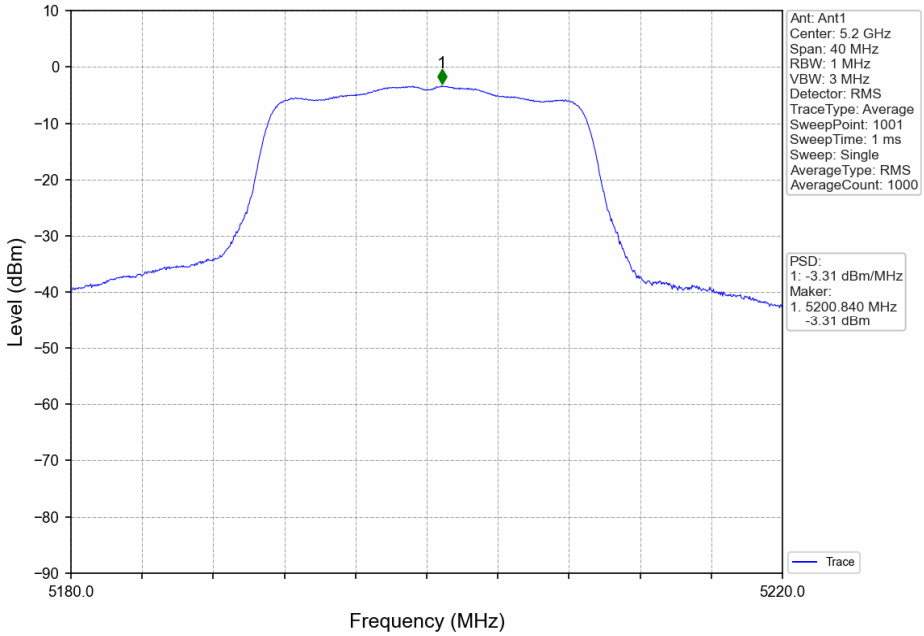

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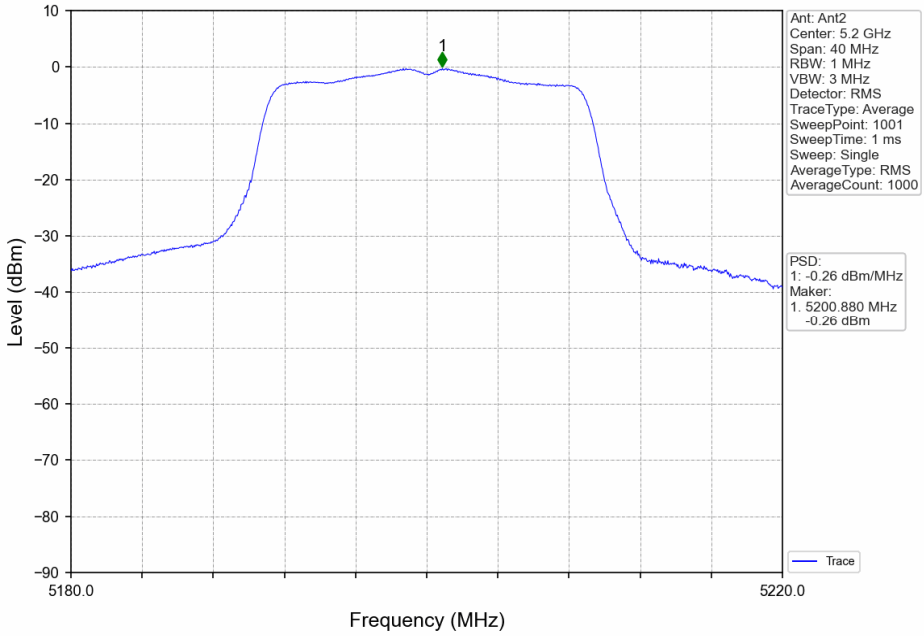
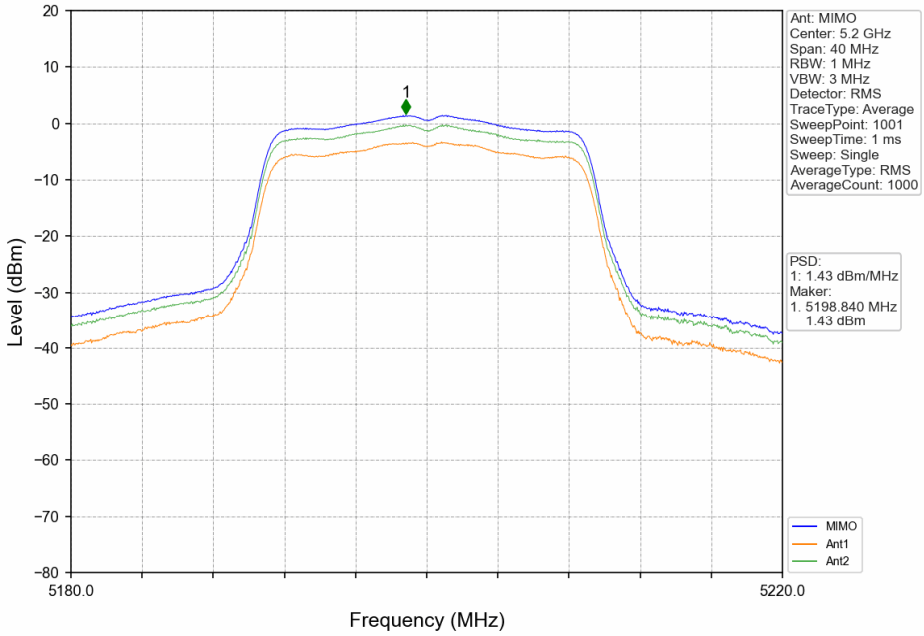
802.11n(HT20)_MCH_5200MHz_Ant2_NTNV



802.11n(HT20)_MCH_5200MHz_MIMO_NTNV



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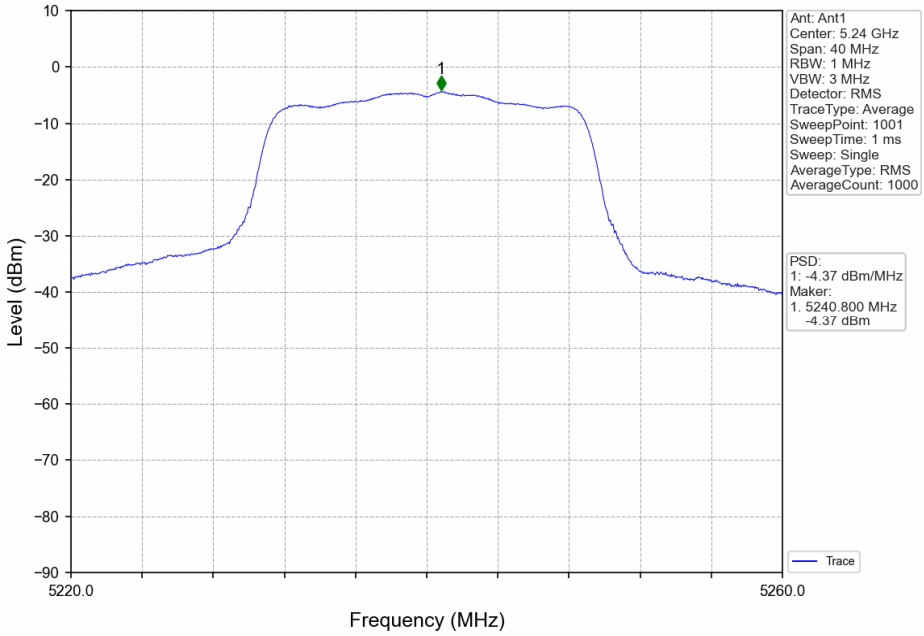
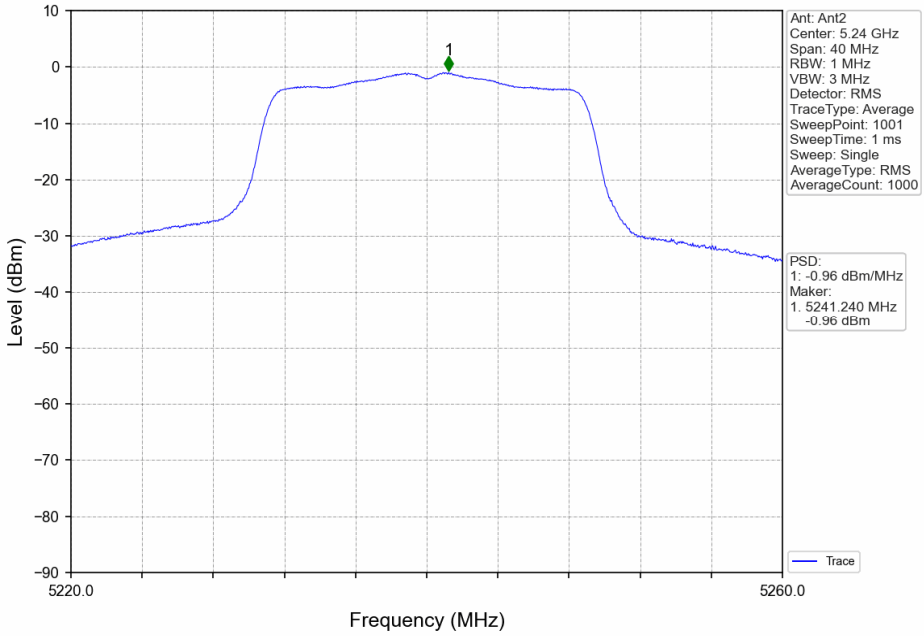
802.11n(HT20)_HCH_5240MHz_Ant1_NTNV



802.11n(HT20)_HCH_5240MHz_Ant2_NTNV



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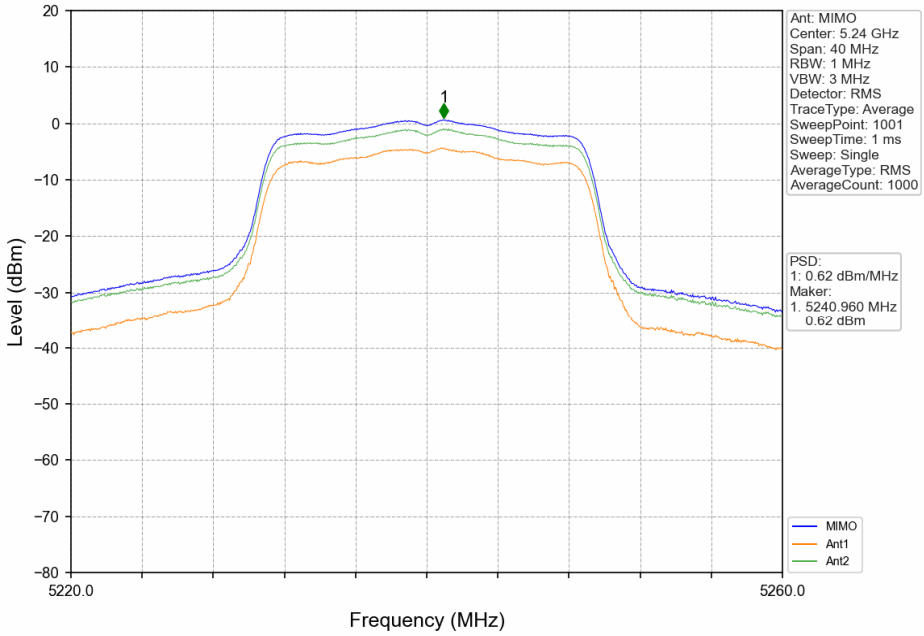
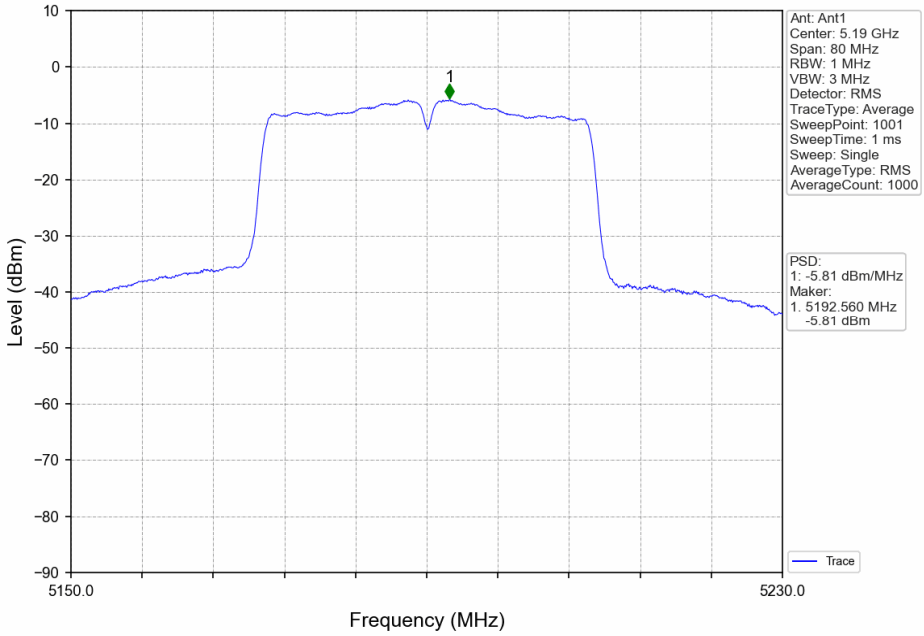
802.11n(HT20)_HCH_5240MHz_MIMO_NTNV



802.11n(HT40)_LCH_5190MHz_Ant1_NTNV



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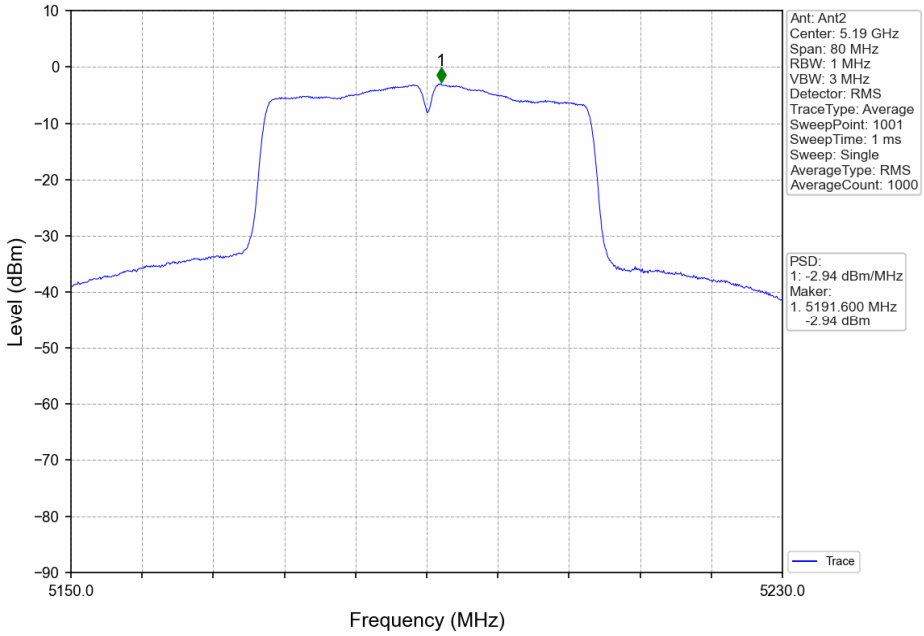
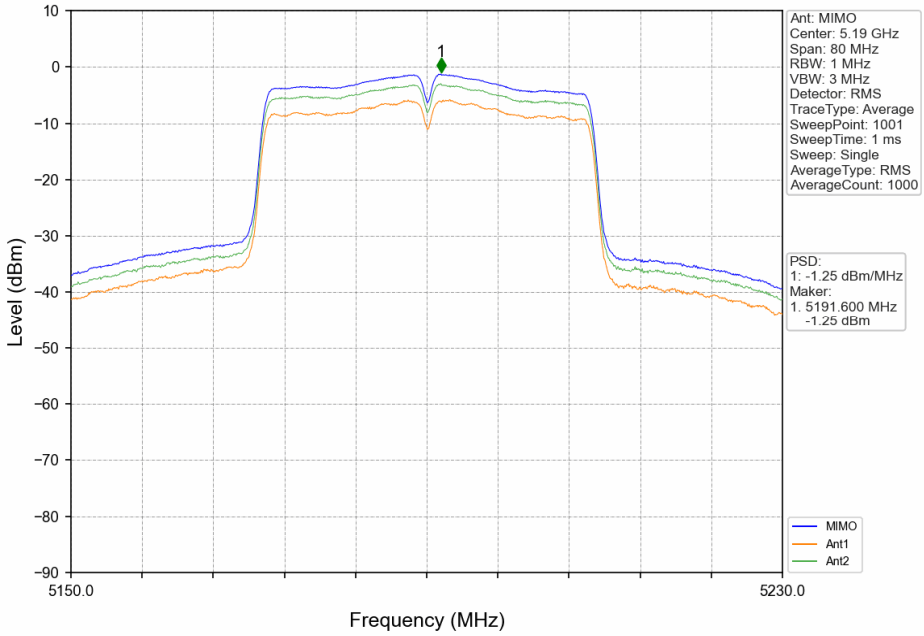
802.11n(HT40)_LCH_5190MHz_Ant2_NTNV



802.11n(HT40)_LCH_5190MHz_MIMO_NTNV



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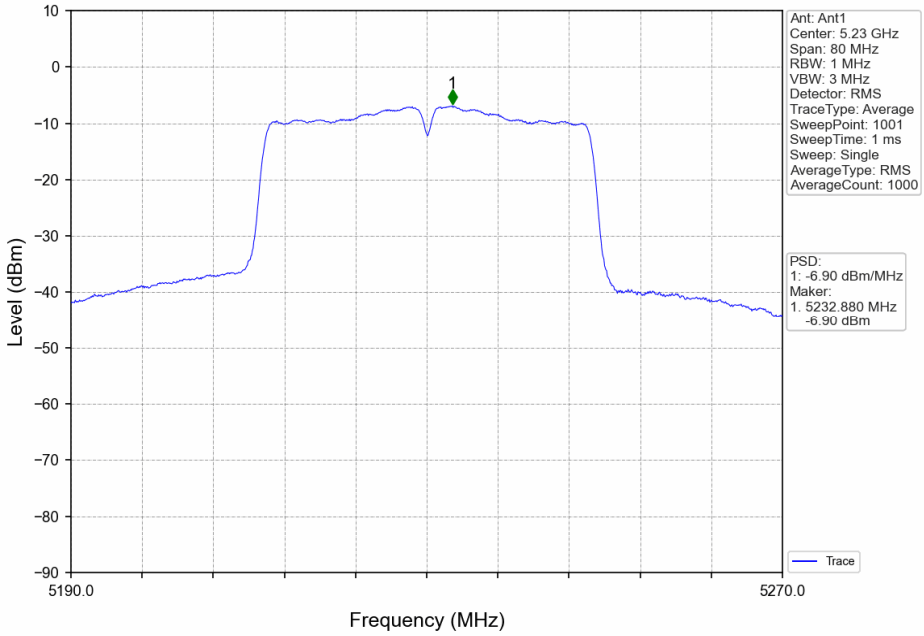
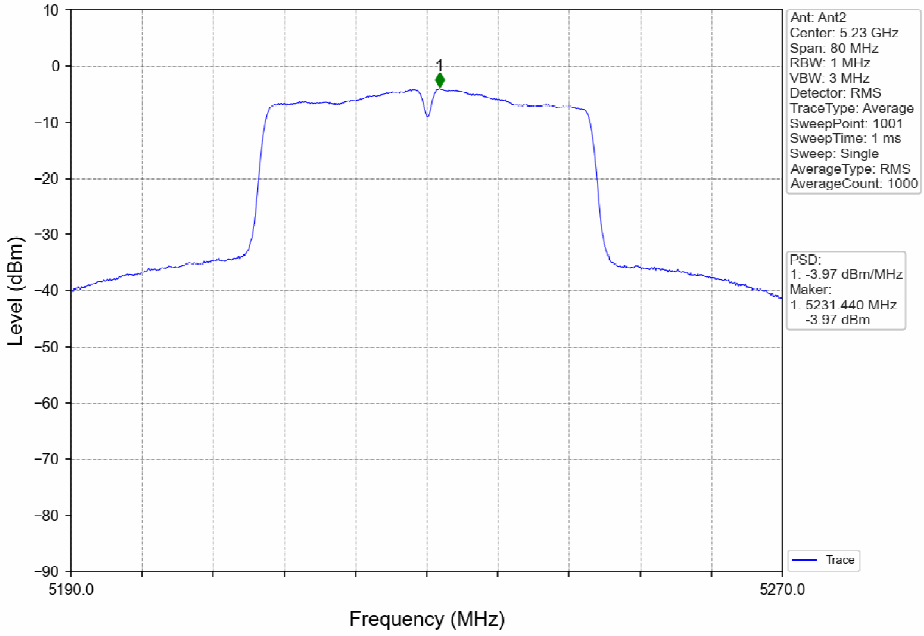
802.11n(HT40)_HCH_5230MHz_Ant1_NTNV



802.11n(HT40)_HCH_5230MHz_Ant2_NTNV



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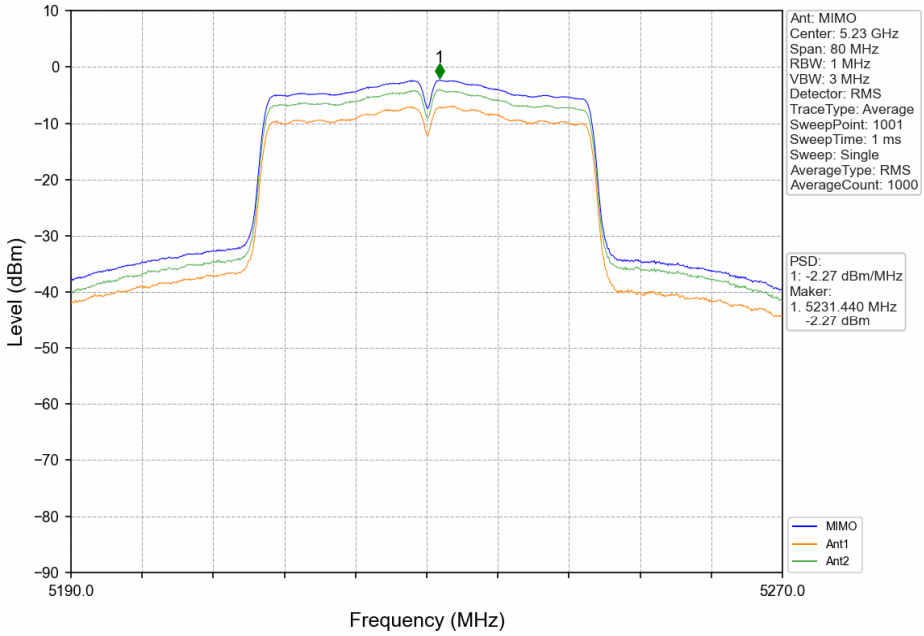
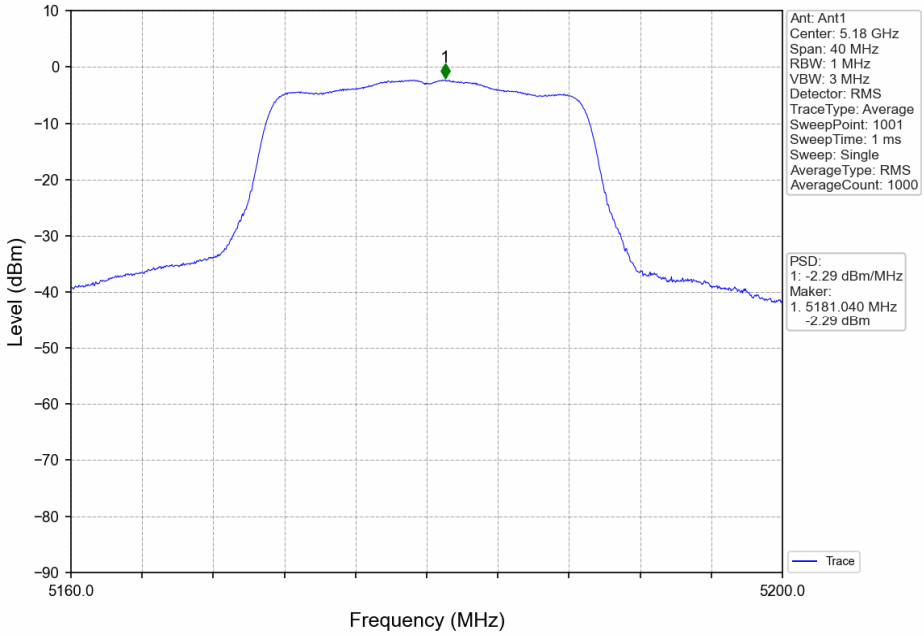
802.11n(HT40)_HCH_5230MHz_MIMO_NTNV



802.11ac(VHT20)_LCH_5180MHz_Ant1_NTNV



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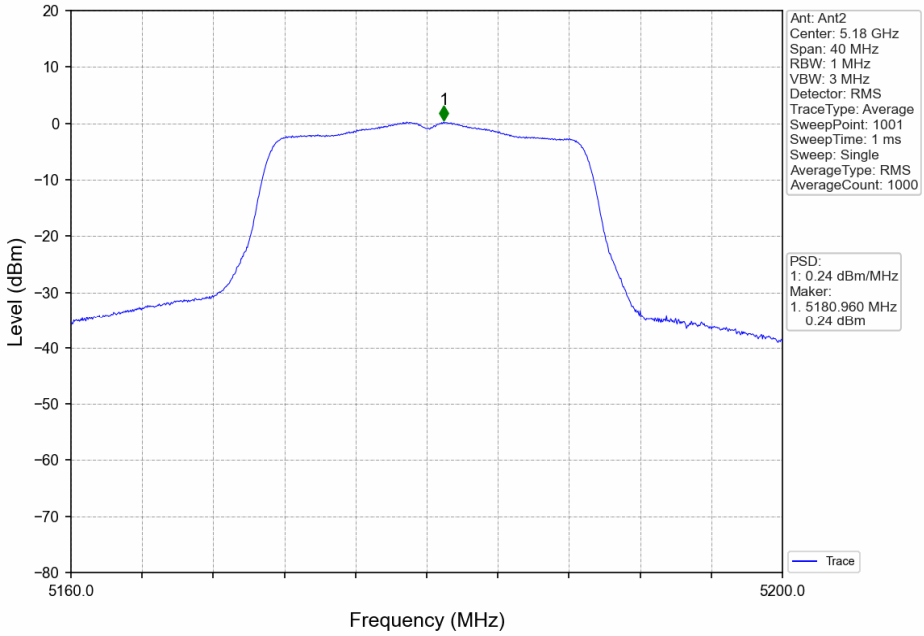
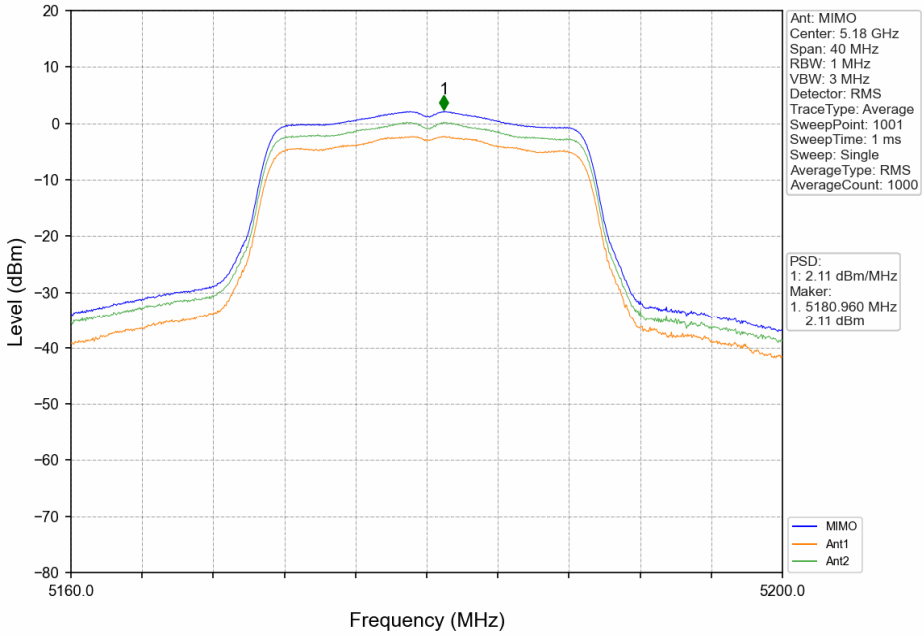


802.11ac(VHT20)_LCH_5180MHz_MIMO_NTNV



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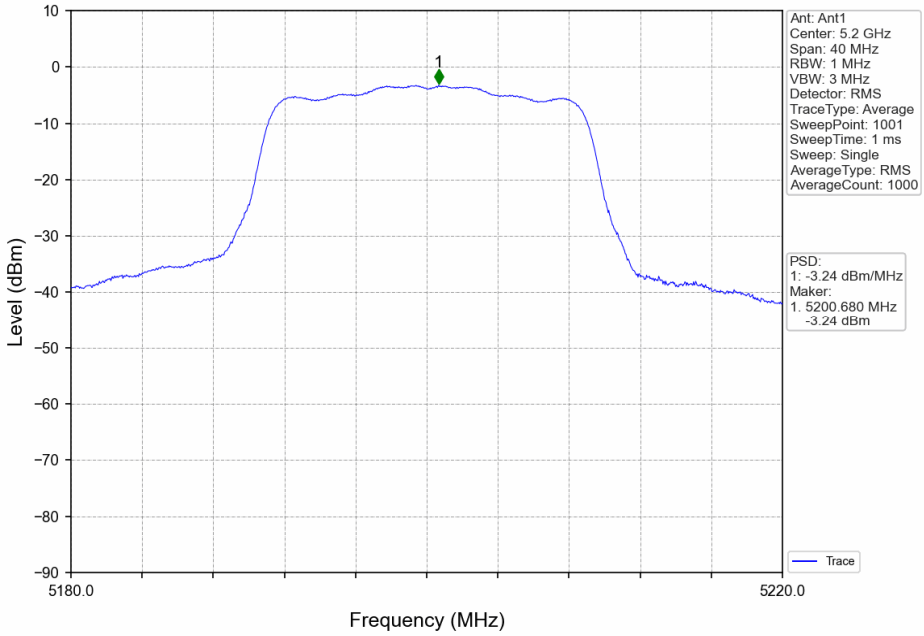
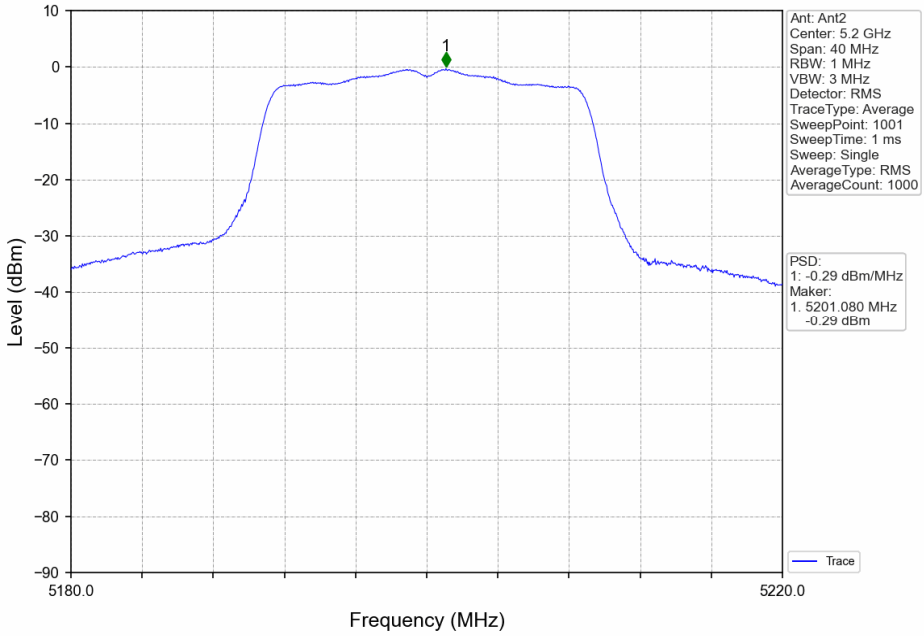
802.11ac(VHT20)_MCH_5200MHz_Ant1_NTNV



802.11ac(VHT20)_MCH_5200MHz_Ant2_NTNV



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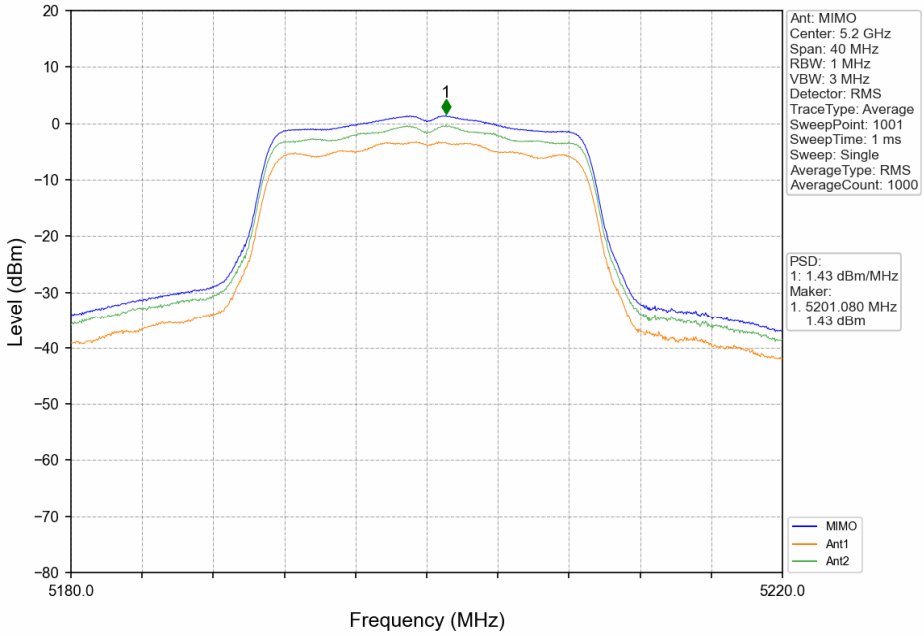
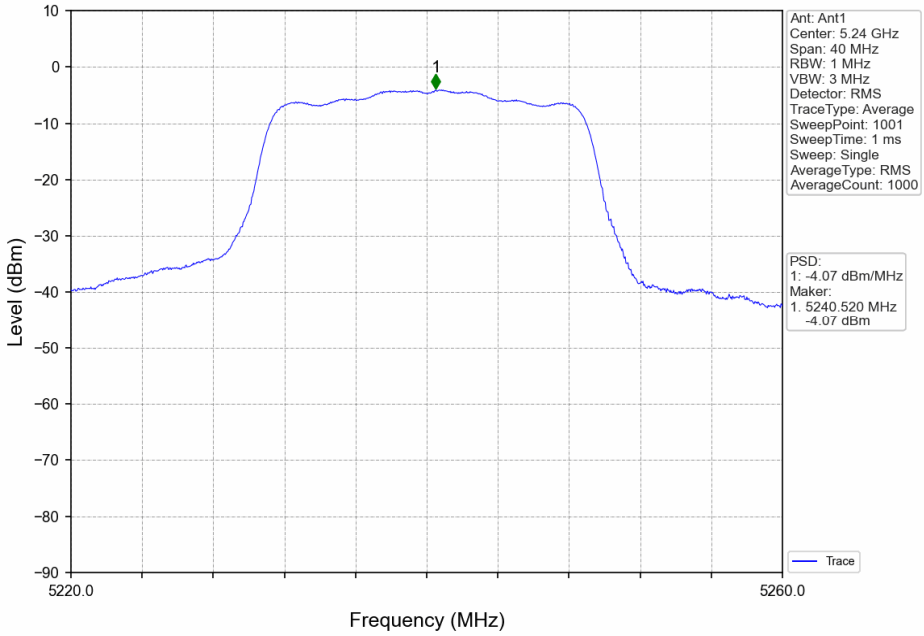
802.11ac(VHT20)_MCH_5200MHz_MIMO_NTNV



802.11ac(VHT20)_HCH_5240MHz_Ant1_NTNV



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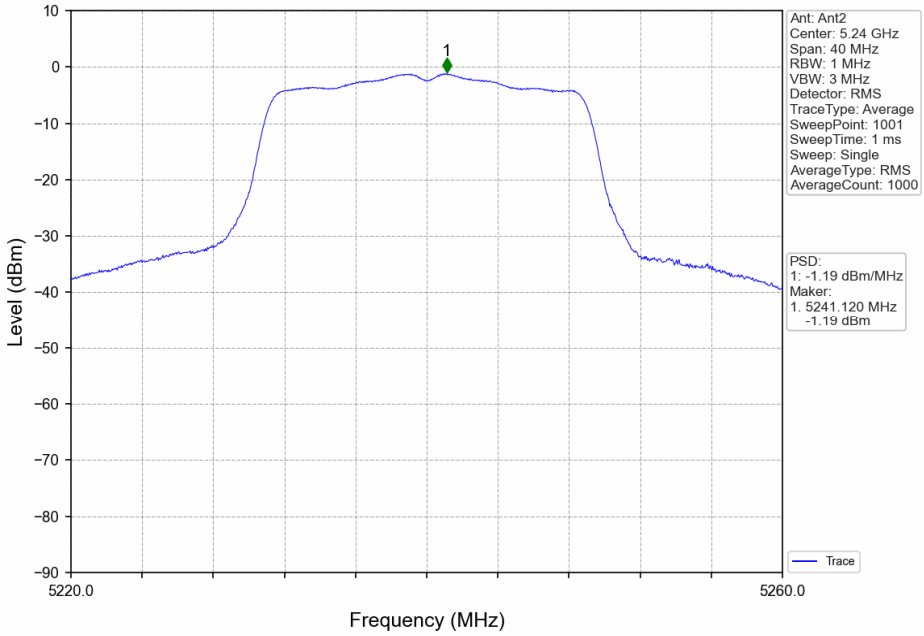
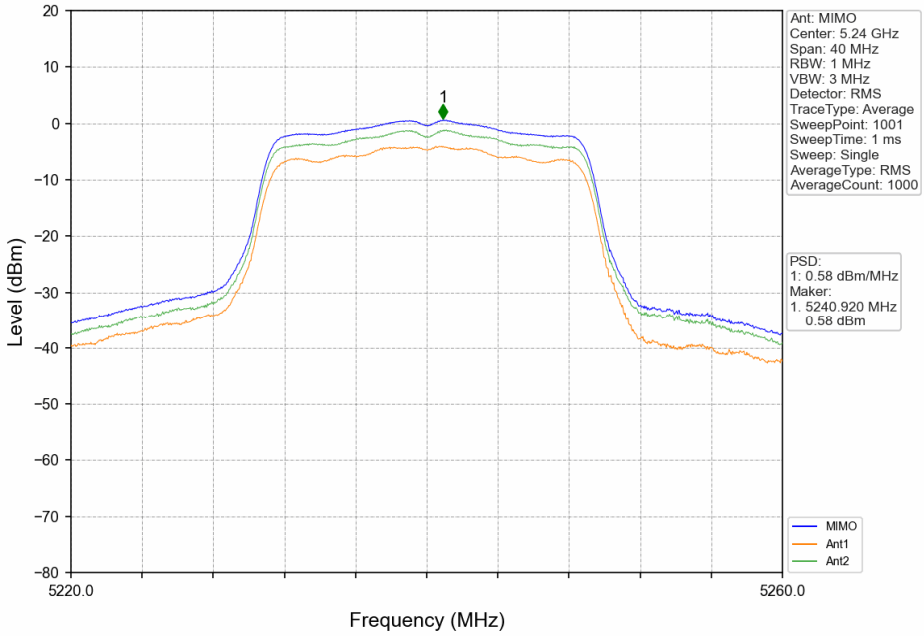
802.11ac(VHT20)_HCH_5240MHz_Ant2_NTNV



802.11ac(VHT20)_HCH_5240MHz_MIMO_NTNV



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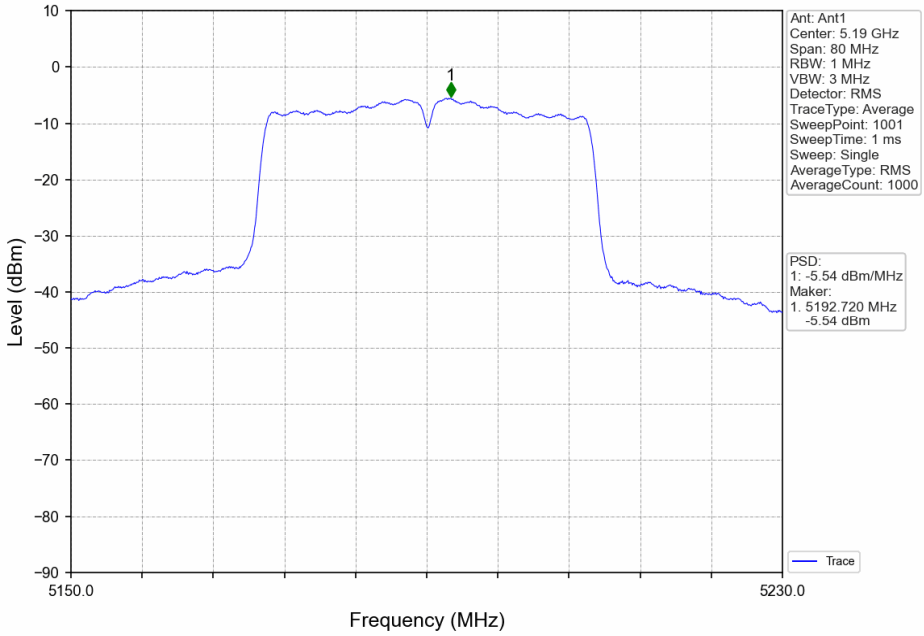
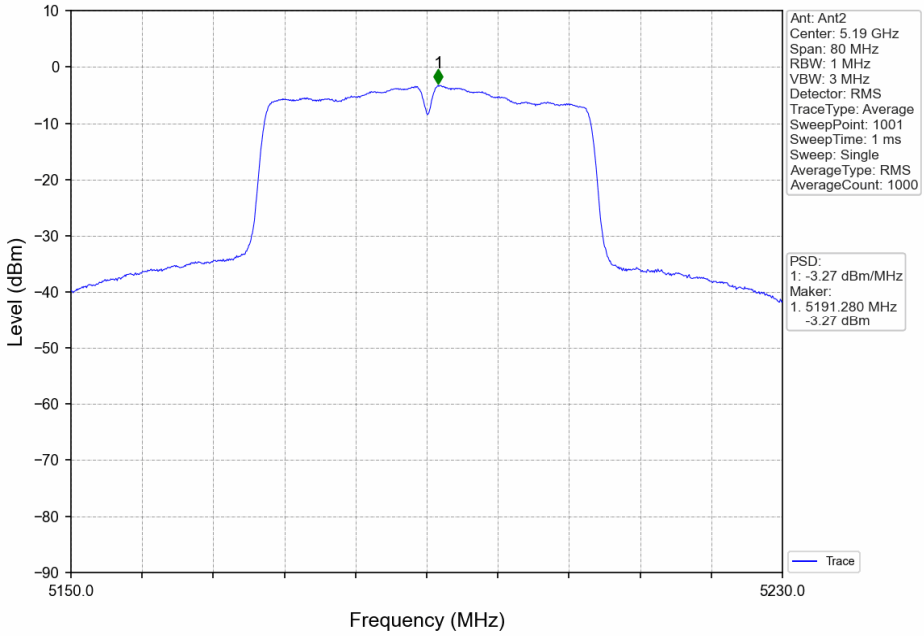
802.11ac(VHT40)_LCH_5190MHz_Ant1_NTNV



802.11ac(VHT40)_LCH_5190MHz_Ant2_NTNV



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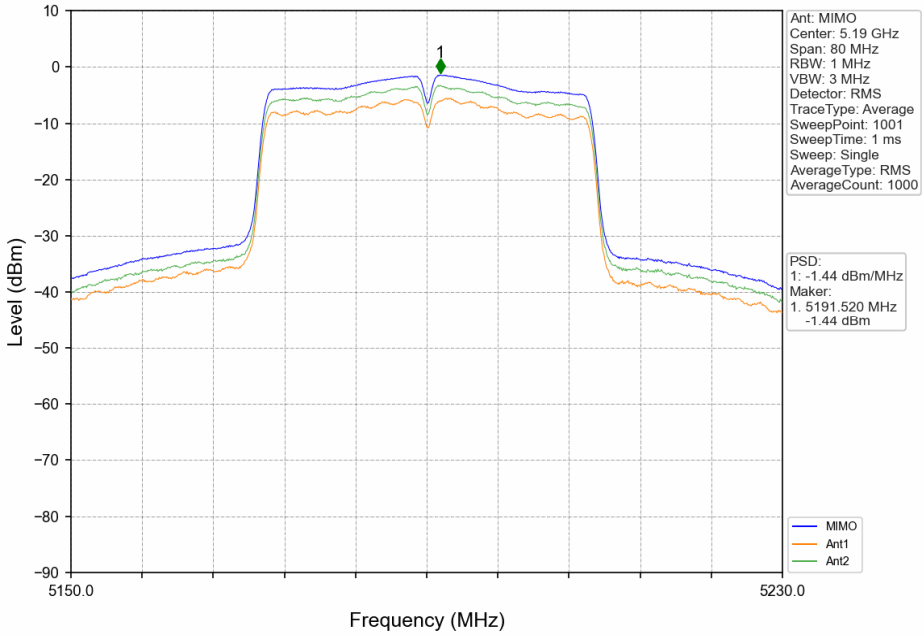
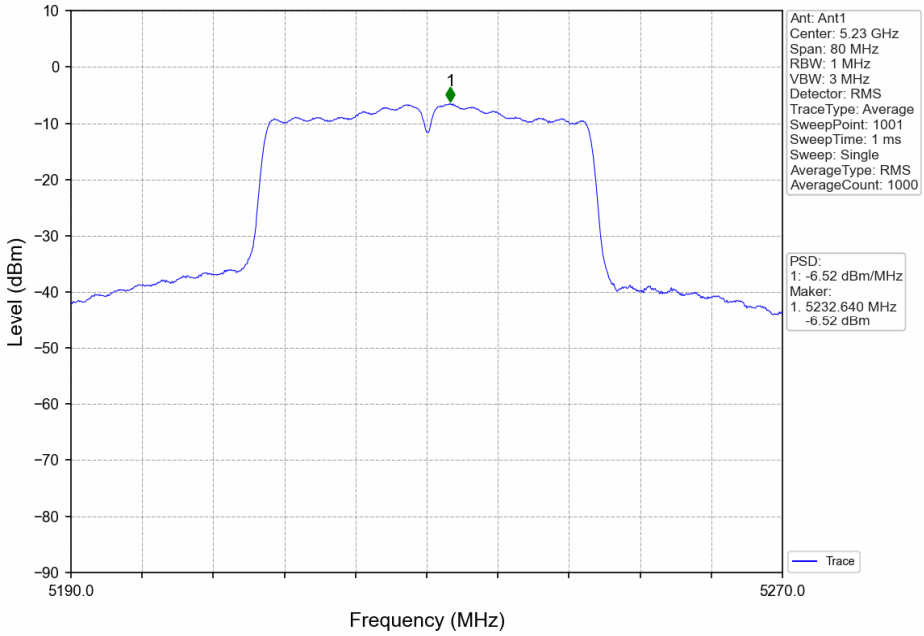
802.11ac(VHT40)_LCH_5190MHz_MIMO_NTNV



802.11ac(VHT40)_HCH_5230MHz_Ant1_NTNV



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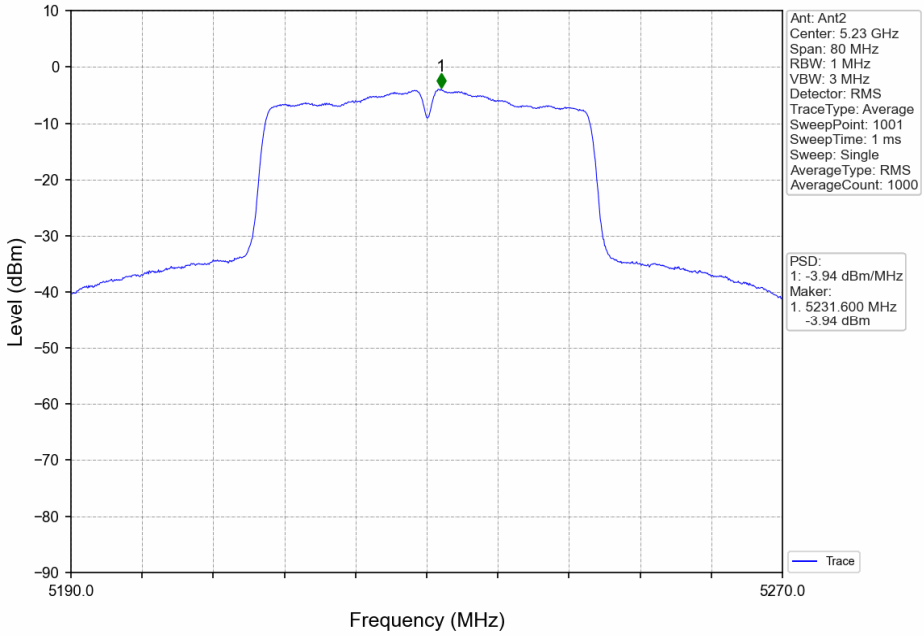
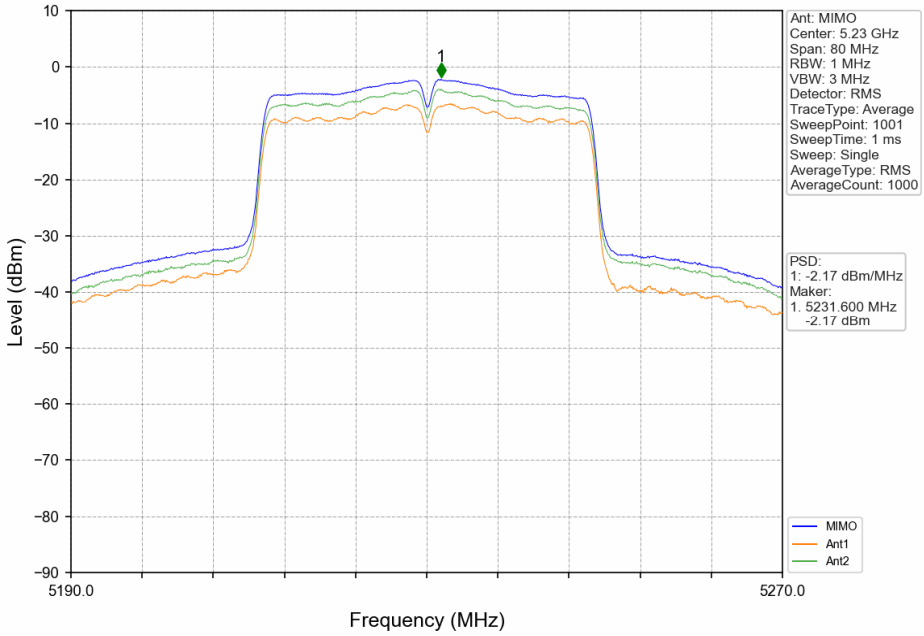
802.11ac(VHT40)_HCH_5230MHz_Ant2_NTNV



802.11ac(VHT40)_HCH_5230MHz_MIMO_NTNV



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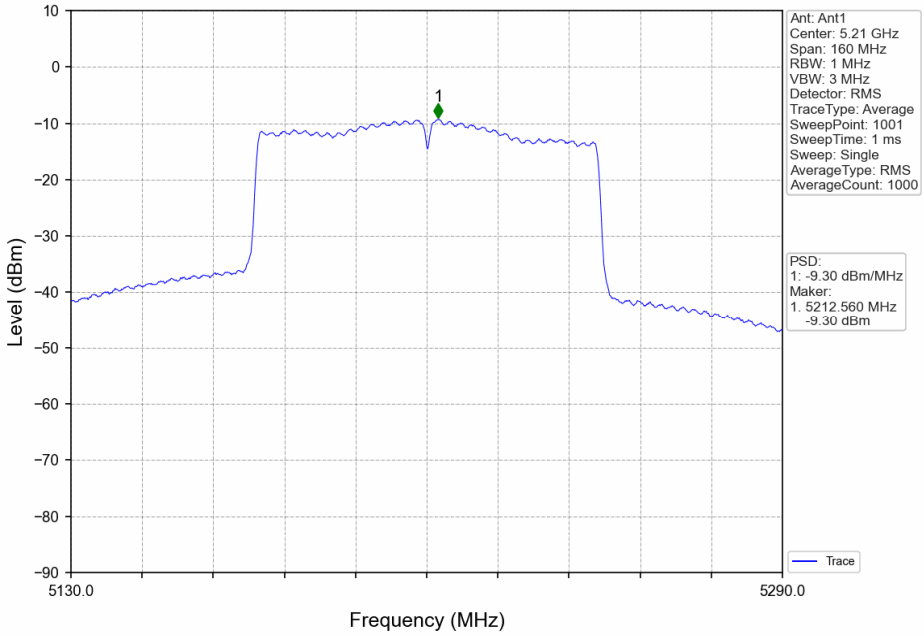
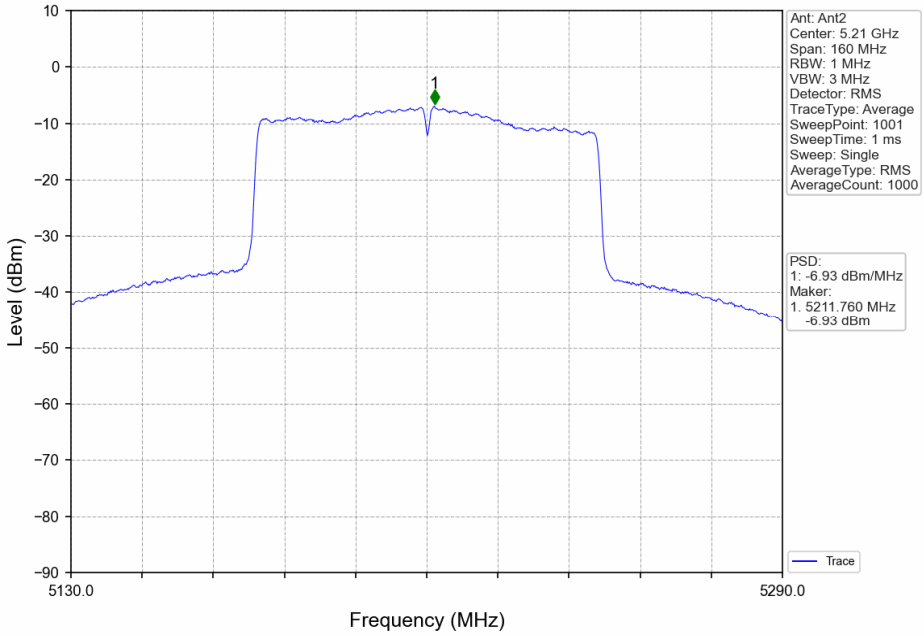
802.11ac(VHT80)_MCH_5210MHz_Ant1_NTNV



802.11ac(VHT80)_MCH_5210MHz_Ant2_NTNV



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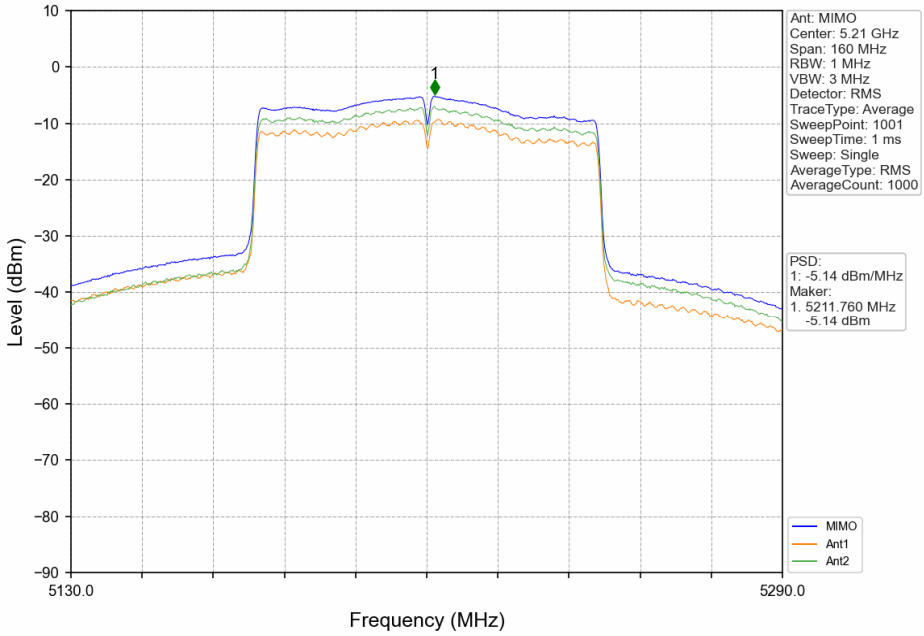
802.11ac(VHT80)_MCH_5210MHz_MIMO_NTNV



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5. Frequency Stability

5.1 Ant1

5.1.1 Test Result

Ant1							
Mode	TX Type	Frequency (MHz)	Temperature (℃)	Voltage (VAC)	Measured Frequency (MHz)	Limit (MHz)	Verdict
802.11a	SISO	5180	20	102	5180.120	5150 to 5250	Pass
				120	5180.180	5150 to 5250	Pass
				138	5180.000	5150 to 5250	Pass
			-30	120	5180.000	5150 to 5250	Pass
			-20	120	5180.160	5150 to 5250	Pass
			-10	120	5180.140	5150 to 5250	Pass
			0	120	5180.060	5150 to 5250	Pass
			10	120	5180.100	5150 to 5250	Pass
			30	120	5179.980	5150 to 5250	Pass
			40	120	5180.020	5150 to 5250	Pass
			50	120	5180.040	5150 to 5250	Pass
		5200	20	102	5200.060	5150 to 5250	Pass
				120	5200.080	5150 to 5250	Pass
				138	5200.040	5150 to 5250	Pass
			-30	120	5200.040	5150 to 5250	Pass
			-20	120	5200.020	5150 to 5250	Pass
			-10	120	5200.120	5150 to 5250	Pass
			0	120	5200.080	5150 to 5250	Pass
			10	120	5200.080	5150 to 5250	Pass
			30	120	5200.000	5150 to 5250	Pass
			40	120	5200.060	5150 to 5250	Pass
			50	120	5200.120	5150 to 5250	Pass
		5240	20	102	5240.000	5150 to 5250	Pass
				120	5240.080	5150 to 5250	Pass
				138	5240.060	5150 to 5250	Pass
			-30	120	5240.060	5150 to 5250	Pass
			-20	120	5240.080	5150 to 5250	Pass
			-10	120	5240.020	5150 to 5250	Pass
			0	120	5240.100	5150 to 5250	Pass
			10	120	5240.040	5150 to 5250	Pass
			30	120	5240.080	5150 to 5250	Pass
			40	120	5240.100	5150 to 5250	Pass
			50	120	5239.980	5150 to 5250	Pass

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802.11n (HT20)	SISO	5180	20	102	5180.080	5150 to 5250	Pass
				120	5180.000	5150 to 5250	Pass
				138	5180.040	5150 to 5250	Pass
			-30	120	5180.020	5150 to 5250	Pass
			-20	120	5180.100	5150 to 5250	Pass
			-10	120	5180.040	5150 to 5250	Pass
			0	120	5180.060	5150 to 5250	Pass
			10	120	5180.040	5150 to 5250	Pass
			30	120	5180.060	5150 to 5250	Pass
			40	120	5180.100	5150 to 5250	Pass
			50	120	5180.040	5150 to 5250	Pass
		5200	20	102	5200.040	5150 to 5250	Pass
				120	5200.100	5150 to 5250	Pass
				138	5200.020	5150 to 5250	Pass
			-30	120	5200.020	5150 to 5250	Pass
			-20	120	5200.100	5150 to 5250	Pass
			-10	120	5200.080	5150 to 5250	Pass
			0	120	5200.040	5150 to 5250	Pass
			10	120	5200.080	5150 to 5250	Pass
			30	120	5200.020	5150 to 5250	Pass
			40	120	5200.040	5150 to 5250	Pass
			50	120	5200.040	5150 to 5250	Pass
		5240	20	102	5240.120	5150 to 5250	Pass
				120	5240.120	5150 to 5250	Pass
				138	5240.080	5150 to 5250	Pass
			-30	120	5240.060	5150 to 5250	Pass
			-20	120	5240.080	5150 to 5250	Pass
			-10	120	5240.100	5150 to 5250	Pass
			0	120	5240.060	5150 to 5250	Pass
			10	120	5239.980	5150 to 5250	Pass
			30	120	5240.040	5150 to 5250	Pass
			40	120	5240.100	5150 to 5250	Pass
			50	120	5240.120	5150 to 5250	Pass
802.11n (HT40)	SISO	5190	20	102	5190.080	5150 to 5250	Pass
				120	5190.080	5150 to 5250	Pass
				138	5190.120	5150 to 5250	Pass
			-30	120	5190.080	5150 to 5250	Pass
			-20	120	5190.080	5150 to 5250	Pass
			-10	120	5190.080	5150 to 5250	Pass
			0	120	5190.080	5150 to 5250	Pass
			10	120	5190.120	5150 to 5250	Pass
			30	120	5190.080	5150 to 5250	Pass

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			40	120	5190.040	5150 to 5250	Pass
			50	120	5190.200	5150 to 5250	Pass
		5230	20	102	5230.120	5150 to 5250	Pass
				120	5230.120	5150 to 5250	Pass
				138	5230.120	5150 to 5250	Pass
			-30	120	5230.160	5150 to 5250	Pass
			-20	120	5230.040	5150 to 5250	Pass
			-10	120	5230.120	5150 to 5250	Pass
			0	120	5230.080	5150 to 5250	Pass
			10	120	5230.120	5150 to 5250	Pass
			30	120	5230.120	5150 to 5250	Pass
			40	120	5230.120	5150 to 5250	Pass
			50	120	5230.040	5150 to 5250	Pass
802.11ac (VHT20)	SISO	5180	20	102	5180.080	5150 to 5250	Pass
				120	5180.080	5150 to 5250	Pass
				138	5180.020	5150 to 5250	Pass
			-30	120	5180.060	5150 to 5250	Pass
			-20	120	5180.020	5150 to 5250	Pass
			-10	120	5180.040	5150 to 5250	Pass
			0	120	5180.040	5150 to 5250	Pass
			10	120	5180.060	5150 to 5250	Pass
			30	120	5179.940	5150 to 5250	Pass
			40	120	5180.080	5150 to 5250	Pass
			50	120	5180.060	5150 to 5250	Pass
		5200	20	102	5200.080	5150 to 5250	Pass
				120	5200.040	5150 to 5250	Pass
				138	5200.000	5150 to 5250	Pass
			-30	120	5200.040	5150 to 5250	Pass
			-20	120	5200.020	5150 to 5250	Pass
			-10	120	5200.040	5150 to 5250	Pass
			0	120	5200.040	5150 to 5250	Pass
			10	120	5200.020	5150 to 5250	Pass
			30	120	5200.000	5150 to 5250	Pass
			40	120	5200.060	5150 to 5250	Pass
			50	120	5200.100	5150 to 5250	Pass
		5240	20	102	5240.120	5150 to 5250	Pass
				120	5240.080	5150 to 5250	Pass
				138	5240.080	5150 to 5250	Pass
			-30	120	5240.100	5150 to 5250	Pass
			-20	120	5240.100	5150 to 5250	Pass
			-10	120	5240.060	5150 to 5250	Pass
			0	120	5240.100	5150 to 5250	Pass

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			10	120	5240.120	5150 to 5250	Pass
			30	120	5240.100	5150 to 5250	Pass
			40	120	5240.140	5150 to 5250	Pass
			50	120	5240.060	5150 to 5250	Pass
802.11ac (VHT40)	SISO	5190	20	102	5190.080	5150 to 5250	Pass
				120	5190.080	5150 to 5250	Pass
				138	5190.040	5150 to 5250	Pass
			-30	120	5190.120	5150 to 5250	Pass
			-20	120	5190.160	5150 to 5250	Pass
			-10	120	5190.080	5150 to 5250	Pass
			0	120	5190.120	5150 to 5250	Pass
			10	120	5190.040	5150 to 5250	Pass
			30	120	5190.080	5150 to 5250	Pass
			40	120	5190.120	5150 to 5250	Pass
			50	120	5190.160	5150 to 5250	Pass
		5230	20	102	5230.160	5150 to 5250	Pass
				120	5230.040	5150 to 5250	Pass
				138	5230.160	5150 to 5250	Pass
			-30	120	5230.040	5150 to 5250	Pass
			-20	120	5230.120	5150 to 5250	Pass
			-10	120	5230.200	5150 to 5250	Pass
			0	120	5230.160	5150 to 5250	Pass
			10	120	5230.160	5150 to 5250	Pass
			30	120	5230.080	5150 to 5250	Pass
			40	120	5230.120	5150 to 5250	Pass
			50	120	5230.120	5150 to 5250	Pass
802.11ac (VHT80)	SISO	5210	20	102	5210.075	5150 to 5250	Pass
				120	5210.150	5150 to 5250	Pass
				138	5210.075	5150 to 5250	Pass
			-30	120	5210.000	5150 to 5250	Pass
			-20	120	5210.075	5150 to 5250	Pass
			-10	120	5210.075	5150 to 5250	Pass
			0	120	5210.075	5150 to 5250	Pass
			10	120	5210.075	5150 to 5250	Pass
			30	120	5210.075	5150 to 5250	Pass
			40	120	5210.150	5150 to 5250	Pass
			50	120	5210.150	5150 to 5250	Pass

- End of the Report -

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